Libraries in the Electronic Era: An Evaluation of the Experiences of Users and Professionals with E-Learning in Academic Libraries

Hudron K. Kari, Onah Ebere Edith

Abstract— **Changes and advancements in information and communication technologies have significantly affected almost every sphere of human existence. The library has also been affected by these changes, evidence of which is the emergence of e-learning platforms as part of library services. However, the experiences of both users and library professionals regarding e-learning has not received significant attention in literature. In this study, the researcher attempted to fill this gap through a survey of 220 library users and 220 library professionals. A total of six alternate hypotheses were tested and rejected. Specifically, the researcher found, among others that e-learning are essential in 21st century library services. It was also found that e-learning promote the utilization of academic library services as well correlate user satisfaction with library services. The implications of these results on library practice has been examined.**

Index Terms- **e-learning, experience, ICTs, professionals and users.**

I. INTRODUCTION

Informational and Communication Technologies (ICTs) have changed learning commendably. This change has come in two broad ways. The first expect of change is the sources for learning materials. Before the advancement in technologies that learning materials were solely printed on papers and library halls were the only places through which people could get library materials. The second change is the places of learning. Before the advancement of technologies, learning was chiefly a face-to-face experience between the instructors and the learners. That is to say that learning experiences only took place when learners visited learning venues. Salman (2008) affirms ICTs are very important in contemporary learning because they make learning engaging, exciting and interactive. Salman adds that in today's learning process, virtually all that are needed to make learning interesting and convenience are provided by ICTs.

Leaning describes the coordination and carefully planned interaction with the goal of internalizing ideas. Learning is at the centre of education and by implication, one of the objectives of setting up academic libraries. That is to say that academic libraries are established to support learning. Cummings (2002) cited in Mosha (2014) says that learning in which students are interactive produces a far more efficient result. In the views of Cummings, when the learning process is made interactive, its objective of internalizing ideas could be easily achieved. Going by the postulations of

Hudron K. Kari, Ph.D, Federal University Otuoke
Onah Ebere Edith, Federal University Otuoke

Cummings, learning should be designed and made interactive. Dennison and Kirt (1990) outline four basic elements of learning model. These are: Do, Review, Learn and Apply. In the views of Dennison and Kirt, the Do element reveals the activity in learning, the review element demonstrates the desire for reflection and assessment, the learn element illustrates the extraction of meaning from the review (Learn), and apply element shows the planned use of learning in future action. Whichever model that is used for learning, such models have to take into account the changes in the learning environment. Learning is now in contemporary learning environment. This has led to what is called e-learning.

The concept of e-learning describes a knowledge transfer experience that is computer based. It is a learning experience where the learner can be far away from the instructor, yet, they are connected through ICT features. E-learning can equally be delivered through computer features such as CD-ROM. Under such arrangement, the lectures are recorded on CD-ROMs and handed over to the learners. The problem with this model is that there is absence of interaction. If the learners have questions, they may be unable to ask and get instant answers. Even if they email the instructors, the response may not be prompt. Another model is live streaming. This offers an opportunity for both the learners and the instructors who are typically separated by distance to interact as though they are close. The advantage of this model is that it affords both the learners and the instructors to interact. Here, strong and reliable network connection are important requirements. Romiszowski, (2004) says that e-learning offers completely new learning ground and this requires that new set of skills are needed on the part of both students and teachers for its to succeed (see also Singh, & Priola, 2001; Alkhattabi, Neagu, & Cullen, 2010; Anderson, 2008a; Andersson, 2008b; Andersson, & Grönlund, 2009; Bell, & Federman; Bencheva, 2010).

E-learning is considered as an important feature of libraries of the 21st century. In today's library services, it is thought that e-learning is an important feature that libraries have to offer their users. E-learning in libraries makes use of u web and/or computer based learning technologies. Also, virtual classrooms as well as digital synergies are cardinal (Bencheva, 2010). The fundamental e-learning elements are the delivery of content using multiple formats, effective management of the learning experience, a community made up of networked of learners, and those responsible for developing content (Titthasiri, 2013). E-Learning applies the strength of networks. Such a network goes beyond the Internet to also include satellite, and digital content to enhance knowledge transfer (Titthasiri, 2013 Bencheva;

2010). E-learning in libraries can be categorized into two. These are asynchronous or self-paced, and synchronous or instructor-led. The fundamental difference in each of the e-learning is the degree of interactivity (Manochehr, 2006). Asynchronous e-learning mainly makes use of mediated platforms like e-mail and discussion boards (Hrastinsk, 2008). The level of interactivity here is low and responses may not be prompt. However, the synchronous e-learning, is usually aided by channels such as videoconferencing and chat, learners and teachers experience(Hrastinsk, 2008). This part of e-learning aids interaction between the instructor and the learner. The feedback mechanism is prompt (Park and Bonk, 2007). Bloom (1981) cited in Mtega and Bernard (2014) says that for e-learning to be effective, it should promote interactivity at three broad levels. The first one is learner–instructor, learner–learner, and learner–content (Bloom 1981). All the three levels are essential because they could determine the success or otherwise of e-learning. For example Learner–instructor interaction focuses on the type of interaction that takes place between the learners and the instructors. This is essential because poor interaction or complete lack of it could make e-learning boring. On the other hand, learner–learner interaction promotes collaborative learning among learners. It makes learners share ideas among themselves, thus making those with exceptional talent to carry the weak one along. Finally, while learner-content focuses on how interactive the learning content is. Users need to find the content interactive and interesting too. The nature of e-learning requires libraries to offer a hybrids, rendering virtual access to electronic resources and services, as well as maintaining and supporting utilization printed materials (Anderson, 2008a). In other words, libraries now have sections for printed materials as well as segment for e-learning. This implies that libraries are required to have a combination of electronic and printed materials (Gunn, 2002). The virtual libraries allows for 24 hours services 7 seven days in a week (see also Chandra, & Patkar, 2007; Chatama, 2014; Friesen, 2009; Garrison, 2011; Ghuloum, & Ahmed, 2011; Hallam, 2012).

Mtega and Bernard (2014). Did a study to ascertain the manner library and e-learning services can be integrated together for the purposes of ensuring knowledge transfer. Their results indicate that all the libraries examined had the required technologies for e-learning to take place. Sharifabadi (2006) carried out a study to ascertain the ways by which libraries can support e-learning. The researcher found that most libraries have shown interest to utilize ICT features for e-learning but they do not have sufficient awareness of how best to integrate e-learning into libraries. Ward (2010) did a study to examine the application of e-learning features in libraries. The researcher found that one of the ways of implementing e-learning in libraries is the application of new teaching approaches like problem-based learning which typically focuses on solving practical problems. It is essential to add here that although there appears to be agreement among scholars on the changing nature of the library and the role that e-learning now plays, there appears to be scarcity of empirical studies on this subjective. There are more of opinion papers. This makes the current study imperative.

Theoretical Framework and Hypothesis Development
This study found expression on the the e-learning theory proposed by Aparicio, Bacao and Oliveira (2016). Aparico et al. after a review of literature came up with a theoretical framework for explaining e-learning. The e-learning theoretical framework of the trio contains the three main components of information systems. These components, according to Aparico et al., are people, technologies, and services. The trio argued that people have interaction with e-learning systems while E-learning technologies aid the direct or indirect interaction of the different groups of users. On the other hand, technologies give support to incorporate content, ensure communication, and provide collaboration tools.

A careful examination of the holistic e-learning theoretical framework showed that the e-learning stakeholders (people) are made up of customers (e.g. students, employee), suppliers (e.g. teachers, content providers and accreditation bodies) professional associations (e.g. students commissions and board of shareholders (e.g. education ministry, industry). The second dimension which e-learning technologies is made up of contents (e.g document, digital audio and video, authoring tools, visualization tools, knowledge repositories, journal/newsletter, learner web, post area, web link manager, audio and video capturing, edutainment content, search engine, learner online, glossary and assessment) , communication (eg discussion area, chat, forum, social network, email, synchronous communication) and collaboration (e.g. multi user dialogue, sharing tool, ask an expert area, problem/solution area and one-on-one monitoring). The last dimension which is e-learning activities has a pedagogical model (e.g. open learning, distribution learning, learning communities, communities of practice and knowledge building communities). Finally, the model has what the trio called instructional strategies which include contextualizing instruction, presenting and cuing content, activating learning processes, activation and assessing learner outcome, synthesizing and sequencing process into instructional lessons, promoting or supporting authentic learning activities, facilitating problem solving, promoting collaboration, supporting role playing, supporting multiple perspective, modeling and explaining scaffolding. Commenting on the contribution of their study, Aparico et al. write: "The main contribution of this critical literature review is to provide the theoretical background for e-learning research strategies (p.302)." Building from this premise, The researcher raised the following hypotheses:

H1: There is a significance difference in the mean scores of users and library professionals on the importance of e-learning in academic libraries.

H2: There is a significance difference in the mean scores of users and library professionals on their positive experiences with e-learning in academic libraries.

H3: There is a significance difference in the mean scores of users and library professionals on their negative experiences with e-learning in academic libraries.

H4: There is a significance difference in the mean scores of users and library professionals on their competence skills to engage with e-learning in academic libraries.

H5: There is a significance difference in the mean scores of users and library professionals on their utilization of with e-learning in academic libraries.

H6: There is a significance difference in the mean scores of users and library professionals on the influence of e-learning on utilization of e-learning in academic libraries. to 12 point type.

II. MATERIALS AND METHODS

To achieve the goal of this study, the researcher adopted the descriptive survey research design. As a research design, descriptive survey allows researchers to describe and explain a phenomenon. Therefore, this design was adopted to enable the researcher describe and explain the experiences of library users and professionals with e-learning features. The total sample was 440 made up of   of 220 librarians and 220 libraries users in Nigeria. The researchers applied the purposive sampling technique to select the sample size. The choice of purposive sample was to ensure that only professionals from academic libraries and users were sampled. The study was conducted in Nigeria. Both the users and the professionals were from government owned federal universities from South-South Nigeria. The questionnaire served as the instrument for data collection. To ascertain the face validity of the instrument, the researcher gave it to three experts from the University of Nigeria, Nsukka. The experts examined the instrument with particular attention to contents, clarity and logicality. Regarding reliability, the researcher used the test retest approach. Consequently, earlier 20 copies of the questionnaire were administered to 20 persons in Enugu State. After a time frame of two weeks, the researcher again contacted the same respondents and administered the instrument to them. With the aid of SPSS version 22, the correlation coefficient was calculated and this yielded .78. This means that the instrument was reliable. The correlation coefficient calculation was .77, an indication of high reliability of the instrument. In the analysis of data for the study, the researcher used a combination of descriptive and inferential statistics. In particular, the researcher used descriptive statistics like simple percentages, mean and standard deviation. Among the inferential statistics, the researcher used t-test to test the hypotheses raised. The choice of t-test was because it enabled the researcher to compare the mean scores of both library users and professionals. All the hypotheses were tested at 0.05 level of significance. All the analyses were carried out using SPSS version 22. Results were presented in tables.

III. RESULTS

Out of the total number of 220 copies of the questionnaire that were administered to library users, 209 were returned and found useful. This represents a return rate of 95%. With regards to library professionals, out of the 220 copies of the questionnaire administered, 201 copies were returned. This represents a return rate of 91% The mean percentage return rate was 93%. The mean attrition rate was 7% This means that there was high return rate for the study. The sample for library users was 65% male and 45% female. For library professionals, it was 69% male and 31% female. All the

library users were single and unemployed. On the other hand, 95% of the library professionals were married while 5% were single. The mean age of the library users 23 (range 20 and 26 years). The mean age of the age of the library professionals was 40 years (range 32 and 48 years).

Table 1: t-test analysis of library users (n=209) and professionals(n=201) on the importance of e-learning in academic libraries

Grouping	Mean	SD	T	df	Sig.(2 tailed)	decision
Users	3.3	.81				
Professionals	3.4	.66	8.561	671	0.61	NS

The essence of the table above was to ascertain the views of library users and professionals concerning the importance of e–learning in libraries. The results showed that   p =0.61 was more the level of significance. This means that the first assumption was not supported and the researcher concludes that there is no significant difference in the mean scores of both library professionals and users concerning the importance of e-learning in libraries. In table two below, the researcher examined the responses of the respondents concerning their positive experience with e-learning.

Table 2: t-test analysis of library users (n=209) and professionals (n=201)   on positive experiences with e-learning.

Grouping	Mean	SD	T	df	Sig.(2 tailed)	decision
Users	3.0	.69				
Professionals	3.1	.91	9.561	634	0.67	NS

The table above was computed to ascertain the differences in the mean scores of both library users and library professionals on their positive experiences with e-learning. The result showed that the p-value was more than the level of significance (p> 0.05). Therefore, the second assumption was not supported and we conclude that there is no significant difference in the mean scores of library users and professionals on their positive experiences with e-learning.

Table 3: t: t-test analysis of library users (n=209) and professionals (n=201)   on negative experiences with e-learning

Grouping	Mean	SD	T	df	Sig.(2 tailed)	decision
Users	3.1	.88				
Professionals	3.2	.99	6.562	604	0.54	NS

In table three above, the researcher sought to ascertain the mean scores of both library users and library professionals on their negative experiences with e-learning in academic libraries. The result showed that the p-value was more than the level of significance (p> 0.05). Therefore, the third assumption was not supported and we conclude that there is no significant difference in the mean scores of library users and professionals on the negative experiences with e-learning in academic libraries.

Table 4: t-test analysis of on the mean scores of users (n=209) and library professionals (201) on their competence skills to engage with e-learning in academic libraries

Grouping	Mean	SD	T	df	Sig.(2 tailed)	decision
Users	3.3	.77				
Professionals	3.5	.68	6.501	7.541	0.55	NS

In table four above, the researcher sought to find out if both library users and professionals possess the competent skills to utilize e-learning facilities. The result showed that the p-value was more than the level of significance (p> 0.05).

Therefore, the fourth assumption was not supported and we conclude that there is no significant difference in the mean scores of library users and professionals on the their competent skills for utilizing e-learning features.

Table 5: t-test analysis of on the mean scores of users (n=209) and library professionals (n=201) on the influence of e-learning on the utilization of academic library services

Grouping	Mean	SD	T	df	Sig.(2 tailed)	decision
Users	3.0	.37				
Professionals	3.1	.58	9.511	8.541	0.54	NS

In table five above, the researcher sought to the mean scores of both library users and professionals regarding utilization of academic library services. The result showed that the

p-value was more than the level of significance (p> 0.05). Therefore, the fifth assumption was not supported and we conclude that there is no significant difference in the mean scores of library users and professionals on the influence of e-learning on the utilization of library services.

Table 6: t-test analysis of on the mean scores of users (n=209) and library professionals (n=201) on the influence of e-learning on the satisfaction with academic library services

Grouping	Mean	SD	T	df	Sig.(2 tailed)	decision
Users	3.0	.74				
Professionals	3.1	.99	6.578	9.541	0.57	NS

In table six above, the researcher sought to find out the mean scores of both library users and professionals regarding the influence of e-learning and satisfaction with academic library services. The result showed that the p-value was more than the level of significance (p> 0.05). Therefore, the last assumption was not supported and we conclude that there is no significant difference in the mean scores of library users and professionals on the influence of e-learning on the satisfaction with library services.

IV. DISCUSSION OF FINDINGS

In this study, the researcher examined the experiences with e-learning among library users and professionals in Nigeria with particular attention to academic libraries. Six assumption were tested. In the first assumption, it was assumed that there is a significance difference in the mean scores of users and library professionals on the importance of e-learning in academic libraries. The result showed no significant difference in their mean scores as both groups regarded e-learning as essential in contemporary library service of academic libraries. This result is similar to evidence in literature (Titthasiri, 2013; Bencheva; 2010; Garrison, 2011; Ghuloum, & Ahmed, 2011; Hallam, 2012) suggesting that e-learning is an essential component of 21st century library services.

In the second assumption, it was assumed that there is a significance difference in the mean scores of users and library professionals on their positive experiences with e-learning in academic libraries. That assumption was not supported as both sets of respondents reported that they have

positive experiences with e-learning in academic libraries. This result is similar to that Andersson, (2008b); Andersson, and Grönlund, (2009) and Bencheva, (2010) who reported that e-learning offers interesting experiences to users.

In the third assumption, it was assumed that there is a significance difference in the mean scores of users and library professionals on their negative experiences with e-learning in academic libraries. That assumption was not supported as both library users and professionals reported that much as they enjoy e-learning, there are challenges that need to be addressed. This include ICT features like Internet, computers, manpower shortage among others. In the fourth assumption, it was assumed that there is a significance difference in the mean scores of users and library professionals on their competence skills to engage with e-learning in academic libraries. The assumption was not supported as both reported that they have the required skills to fully utilize e-learning features. In the fifth assumption, it was assumed that there is a significance difference in the mean scores of users and library professionals on their utilization of with e-learning in academic libraries. That assumption was not supported. Both groups agreed that e-learning significantly plays a role in influencing the utilization of e-learning features in academic libraries. Finally, in the last assumption, it was assumed that there is a significance difference in the mean scores of users and library professionals on the influence of e-learning on satisfaction with services of academic libraries. That assumption was not supported as it was found that both library users and professionals agreed that utilization of e-learning significantly predict satisfaction with academic libraries. The

results of this study have shown that both library users and professionals have both positive and negative experiences in using e-learning in academic libraries. However, the results point to the fact that e-learning is essential in academic libraries.

V. CONCLUSION/RECOMMENDATIONS

Based on the results of this study, the researcher concludes that both library users and professionals have a combination of positive and negative experiences. The results of this study have theoretical implications as well as the library practice. Theoretically, the results of this study provide strong theoretical support to the theory of e-learning by suggesting that it could be an appropriate framework for investigating issues related the provision of e-learning services in academic libraries. The results also have implications on library practice by implying that academic libraries wishing to promote library service should make provision for e-learning to encourage patronage and enhanced user satisfaction. Based on the results of this study, it is recommended that academic libraries should continue to provide users with e-learning services. It is also suggested that library management should address issues that result to negative experiences with e-learning use. Such issues include reliable and stable Internet connection, adequate skillful manpower among others. Further studies should to replicated in other locations for the purposes of growing literature in this regard.

REFERENCES

[1] Alkhattabi, M., Neagu, D. & Cullen, A. (2010). Information quality framework for eLearning systems. *Knowledge Management & E-Learning: An International Journal*, 2, (4), 330-340.

[2] Anderson, T. (2008a).*The theory and practice of online learning*. Athabasca University Press, Edmonton

[3] Andersson, A. (2008b). Seven major challenges for e-learning in developing countries: Case study eBIT, Sri Lanka.' *International Journal of Education and Development using* ICT [Online], 4(3). http://ijedict.dec.uwi.edu/viewarticle.php?id=472

[4] Andersson, A.S. & Grönlund, A. A., (2009). A conceptual framework for e-learning in developing countries: A critical review of research challenges. *The Electronic Journal of Information Systems in Developing Countries*, 38,12-24.

[5] Aparicio, M., Bacao, F., & Oliveira, T. (2016). An e-Learning Theoretical Framework. *Educational Technology & Society*, 19 (1), 292–307.

[6] Bell, B. S. & Federman, J. E. (2013). E-Learning in postsecondary education. http://files.eric.ed.gov/fulltext/EJ1015213.pdf

[7] Bencheva, N. (2010). Learning Styles and e-Learning face-to-face to the traditional learning. http://conf.uni-ruse.bg/bg/docs/cp10/3.2/3.2-11.pdf

[8] Chandra, S. & Patkar, V. (2007). ICTS: A catalyst for enriching the learning process and library services in India. *The International Information & Library Review* 39, 1–11

[9] Chatama, Y. J. (2014) 'Developing End-user ICT skills: case of Higher Learning Institutions in Tanzania.' *Developing Country Studies*, 4, (3), 12-27.

[10] Dennison B & Kirk R (1990). Do review learn apply: a simple guide to experiential learning, Oxford: Blackwell

[11] Friesen, N. (2009). *Re-thinking e-learning research: Foundations, methods and practices*. New York: Pearson.

[12] Garrison, D. R. (2011*). E-Learning in the 21st Century: A Framework for Research and Practice.*

[13] Ghuloum, H. & Ahmed, V. (2011). The Implementation of new ICT services in kuwaiti academic libraries. *The Built & Human Environment Review*, 4, 15-29.

[14] Gunn, H. (2002). Virtual libraries supporting student learning.' school libraries *Worldwide*, 8, (2), 27-37.

[15] Hallam, G. (2012). Briefing paper on etextbooks and third party eLearning products and their implications for Australian university libraries. http://www.caul.edu.au/content/upload/files/learning-teaching/eTextbook2012report.pdf

[16] Hrastinski, S. (2008). Asynchronous and synchronous E-learning.' http://www.educause.edu/ero/article/asynchronous-and-synchronous-e-learning

[17] Manochehr, N. (2006). The influence of learning styles on learners in e-Learning environments: An empirical study. *Computers in Higher Education Economics Review*, 18(1), 10–14.

[18] Mtega, M. & Bernard, R. (2014). The integration of library and e-learning systems: the case of selected public universities in Tanzania. Proceedings and report of the 7th UbuntuNet Alliance annual conference, 231-244

[19] *Salman, S. (2008).The Impact of ICT on teaching and learning: : a case study of Allidan Visram high school. Retrieved from* http://erepository.uonbi.ac.ke/handle/11295/6340#targetText=The%20study%20attempts%20to%20explain,enhancing%20student%20learning%20and%20achievements.&targetText=When%20Educational%20Technology%20is%20integrated,and%20in%20an%20efficient%20manner.

[20] Sharifabadi, S. (2006). How digital libraries can support e-learning. *The Electronic Library* 24 (3), 389-401.

[21] Singh, G. & Priola, V. (2001). Long distance learning and social networks: An investigation into the social learning environment on online students. Proceedings of the Sixth Annual ELSIN Conference. 158-164.

[22] Titthasiri, W. (2013). A comparison of e-Learning and traditional Learning: experimental approach. From http://www.ijitcs.com/volume%2012_No_3/Wanwipa.pdf

[23] *Ward, J. (2010). Applying E-learning technologies to library information literacy instruction. Retrieved from* http://eprints.dkit.ie/93/1/Ward_Chapter.pdf