Article DOI: http://dx.doi.org/10.4314/iijikm.v7i2.2

Information Impact

Information Impact:
Journal of Information and Knowledge Management
2016, Vol. 7 (2) Pg 15 - 26
ISSN: 2141 – 4297 (print)
ISSN: 2360 – 994X (e-version)

Computer self efficacy as correlate of on-line public access catalogue use: a case study

Benjamin Nwobu
Federal College of Education (Technical) Lagos

Olawale Oyewole
University of Ibadan, Nigeria

Julius Kayode Apotiade
University of Ibadan, Nigeria

Abstract

The use of Online Public Access Catalogue (OPAC) by students has a lot of advantages and computer self-efficacy is a factor that could determine its effective utilization. Little appears to be known about colleges of education students' use of OPAC, computer self-efficacy and the relationship between OPAC and computer self-efficacy especially in the Nigeria context. This gave rise to the study. The descriptive research design was used for the study and population comprised of 2755 students of the Federal College of Education (Technical) Lagos, Nigeria. The multistage random sampling technique was used to select the sample size of 209 and the questionnaire was the data collection instrument. Findings showed that most of the respondents 125 (61.6%) searched the OPAC through title and 53 (26.1%) used the OPAC twice a week. Results also showed that majority of the study had high computer self-efficacy, as there was a significant positive relationship between computer self-efficacy and use of OPAC($r = .430^{**}$; $df = 202$; $p < 0.01$). It was recommended that alternative power sources should be provided to reduce incessant power outage that limits OPAC use.

Keywords: Computer self-efficacy, OPAC, computer skills, Nigeria

Introduction

The advent of computer and telecommunication technologies has transformed the process of organization of library resources. The era of the traditional card catalogue, where the bibliographic description of library resources is done on a card and filed in a cabinet appears to be passing away as Online Public Access Catalogue (OPAC) has taken the centre stage. OPAC is the modern and flexible form of the catalogue, usually providing instantaneous and sophisticated access to any recorded information within a computer. It serves as the gateway to information centre's collection. Reitz (n.d.) defines OPAC as a database composed of bibliographic records describing the books and other materials owned by a library or library system, accessible via public terminals or workstations usually

concentrated near the reference desk to make it easy for users to request the assistance of a trained reference librarian.

Kani-Zabihi, et al (2008) also noted that an OPAC is an online database which has an index of all library resources (in forms of text, audio, and video), available in any institution. OPAC is used to search for resources, as well having the benefits of accessing a library's information remotely and saving time for a library's users. Thanuskodi (2012) noted that an OPAC database records are usually derived from MARC (machine-readable catalogue) format. The records are brief bibliographic descriptions enriched with a small number of controlled subject descriptors (often taken from the Library of Congress Subject Headings) and a classification number.

Husain and Ansari (2006) explained that users have more access points with OPAC in comparison to the card catalogue. With the OPAC, access points could be by standard numbers like ISBN (International Standard Book Number) and ISSN (International Standard Serial Number); keywords etc. Almost every single part of the bibliographic records is accessible through keywords searching like author, title, subject heading, call number, and as stated earlier ISBN and ISSN. Unlike the card catalogue, OPAC also gives users the opportunity to broaden up or narrow down their search through the use of Boolean operators like AND, OR and NOT in the OPAC. They can also limit search results by language, date of publication and type of document. This facility is not available in the card catalogue.

The advent of the Internet and the World Wide Web has made it possible for OPAC to be integrated into the web. Husain and Ansari (2006) noted that Web OPAC is an OPAC provided on the web and with the help of internet anybody can access it from anywhere. It is programmed to facilitate members to access the OPAC through their own search. The differences between the OPAC and Web OPAC are that in the OPAC, local area network and the intranet are used which limits the persons who can use it, while in Web OPAC, the usage is global and a person can access it from anywhere. Also, in OPAC, users have to follow the program of the particular OPAC software in the library, while in Web OPAC, HTML files are used with hyper link to the subject areas or discipline (Husain & Ansari, 2006). Since OPAC is a tool facilitated through the use of computer technology, a very important factor that could influence its use is computer self-efficacy.

According to Bandura (1999), computer self-efficacy has to do with judgments regarding one's capability to successfully perform a specific task, utilizing the computer to organize and execute the course of action required to manage prospective situations. Computer self-efficacy is concerned not with skills one has, but with judgments and confidence, one has in oneself concerning what one can do with whatever skills one possesses. Computer self-efficacy is a significant determinant of performance which operates partially independent of the level of skills possessed. It involves a generative capability in which one must organize cognitive, social

and behavioral sub-skills into integrated courses of action.

Compeau and Higgins (1995) averred that computer self-efficacy has a major impact on an individual's expectations towards using computers. Sam et al (2005) expressed that computer self-efficacy was found to be associated with attitudes toward computer technologies. This conclusion was made as a result of the findings from a study conducted on computer self-efficacy, computer anxiety, and attitudes toward the Internet among undergraduates in Malaysia, where on a scale of 1-5, most of the respondents (Mean=3.574) had high computer self-efficacy. This proves that computer self-efficacy could have a form of relationship with the use of OPAC by users. As such, this study wants to test this in the case of the college of education students in a Nigerian institution.

Colleges of education are among the institutions that render tertiary education, especially within the Nigerian context. Moja (2000) expressed that colleges of education offer post-secondary National Certificate in Education (NCE) training programmes. In the words of Oritsebemigho (2014), colleges of education in Nigeria are the "train the trainers" colleges as they are responsible for the production of teachers at the primary and junior secondary levels. Colleges of education in Nigeria derive their legality from Act (1986, No. 4) that specifies their functions. These include; the provision of full time courses in teaching, instruction and training in technology, applied science, humanities and management. Colleges of education are also mandated to also provide training in other fields of applied learning that is relevant to the development of Nigeria.

The National Certificate in Education (NCE) offered by these colleges has become the minimum qualification for primary school teaching in Nigeria from 1998. This certificate is a sub-degree (certificate course) and a professional teacher diploma, which is obtained after 3 years (full time) at a college of education. The graduates of the programme are qualified to teach the first nine years of schooling (six years of primary school and the three years of junior secondary school (Moja 2000 & Lassa, 2000 as cited by Oritsebemigho, 2014). The college library is established to assist the students with information resources and services that will facilitate their academic success. The catalogue is an important library tool that is critical to the functioning of the college library. Due to the fact that some colleges of education libraries in Nigeria are deploying OPAC, a study that seeks to examine the relationship between computer self efficacy of students and the use of OPAC is therefore imperative.

Research questions

The research questions that will guide the study are;

1. What are the access points used by students of Federal College of Education (Technical) Lagos to retrieve documents from the Online Public Access Catalogue?
2. What is the frequency of use of Online Public Access Catalogue by

students of Federal College of Education (Technical) Lagos, Nigeria?

3. What is the computer self efficacy of students of Federal College of Education (Technical) Lagos?

Research hypothesis

This null hypothesis will be tested in this study;

Ho: There is no significant relationship between computer self efficacy and use of Online Public Access Catalogue by students of Federal College of Education (Technical) Lagos, Nigeria.

Methodology

The study adopted the descriptive survey research design. The target population was the 2755 students of the College of Education (Technical) Lagos State, Nigeria, who were in the five schools of the institution (Table 1). The multistage random sampling method was used for this study. In the first stage, two out of the five schools were randomly selected using the balloting method. The next stage of sampling involved the purposive selection of three departments with the highest number of students in each of the school. In the last stage, a sampling fraction of 30% was used to select the sample size of 209 (Table 2). The questionnaire was the research instrument used for data collection. Descriptive statistics of frequency counts and correlation analysis were used to analyze the data.

Table 1 Population of the study

Schools	**Number of students**
Business Education	916
Vocational Education	213
Technical Education	232
Education	404
Science	990
Total	**2755**

Table 2 Sample size for the study

Schools	**Departments**	**Number of students**	**Sample size**
Technical Education	Electrical Electronics	62	19
	Woodwork Technology	48	14
	Building Technology	47	14
Science	Integrated Science/Biology	253	76
	Computer Science/Mathematics	153	46
	Computer/Integrated Science	132	40
Total		**695**	**209**

Findings and discussion

A total of 209 copies of the questionnaire were administered to the students of the College of Education (Technical) Lagos State, out of which 203 copies were returned and found useful for analysis giving a response rate of 97%.

Demographic characteristics of respondents

Findings revealed that most of the respondents 129 (64%) were males, while 74 (36%) were of the female gender. Also, the respondents were made up of students 106 (52%) who were mostly between 16-20 years of age, as only 5 (3%) were above 30 years old. Most of the respondents 90 (44%) were in their first year (NCE I), while 38 (19%) were in their finals (NCE III).

Research question one: What are the access points used by students of Federal College of Education (Technical) Lagos to retrieve documents from the Online Public Access Catalogue?

Results of the study as presented in table 3 showed that the students accessed the OPAC through various access points. However, the most used access point by the majority of the respondents was the title of publications as noted by 125 (61.6%), while the second most used access point was through the names of authors of publications as noted by 114 (56.1%). On the other hand, a fraction of the students represented by 76 (37.4%) and 61 (30.1%) disagreed that they used place of publication and year of publication as access points to retrieve information resources from the OPAC.

Table 3 Distribution of Access points used by students of Federal College of Education (Technical) Lagos to retrieve documents from the Online Public Access Catalogue

Statements	SA Freq %	A Freq %	D Freq %	SD Freq %
I access the OPAC through name of authors	52 25.6	114 56.1	31 15.3	6 3.0
I access the OPAC through the title	51 25.1	125 61.6	26 12.8	1 0.5
I access the OPAC through the subject	80 39.4	102 50.2	18 8.9	3 1.5
I access the OPAC through the series name of books	43 21.2	101 49.8	47 23.2	12 5.8
I access the OPAC through the classification number of the books	53 26.2	91 44.8	49 24.1	10 4.9
I access the OPAC through the accession number of the books	49 24.1	96 47.3	52 25.6	6 3.0
I access the OPAC through the International Standard Book/Serial Number (ISBN/ISSN)	53 26.1	91 44.8	55 27.0	4 2.0
I access the OPAC through the name of	45 22.2	97 47.8	55 27.1	6 3.0

publishers				
I access the OPAC through the place of publication	28 13.8	83 40.9	76 37.4	16 7.9
I access the OPAC through the year of publication	29 14.3	90 44.3	61 30.1	23 11.3

Research question two: What is the frequency of use of Online Public Access Catalogue by students of Federal College of Education (Technical) Lagos, Nigeria?

Results on the frequency of use of OPAC showed that most of the respondents 53 (26.1%) acknowledged that they used this important information retrieval tool in the library twice a week, while 50 (24.6%) expressed that they used OPAC occasionally. Also, 22 (10.8%) stated that they used OPAC monthly and only 7 (3.4%) averred that they never used OPAC. This proved that on the average OPAC was appreciatively used to an extent by the majority of the college of education students (Table 4).

Table 4 Distribution of frequency of use of Online Public Access Catalogue by students of Federal College of Education (Technical) Lagos

Frequency	**Frequency**	**Percentage**
Daily	30	14.8
Twice a Week	53	26.1
Weekly	41	20.2
Monthly	22	10.8
Occasionally	50	24.6
Never	7	3.4
Total	**203**	**100.0**

Research question three: What is the computer self-efficacy of students of Federal College of Education (Technical) Lagos?

Table 5 revealed that most of the students had a high computer self-efficacy which could complement their use of OPAC in the library. This conclusion was reached as a result of the findings which showed that majority of the respondents 113 (55.7%) echoed that "I feel confident understanding terms/words relating to OPAC use", 107 (52.7%) indicated that "I feel confident using OPAC even if I have never used it before" and 100 (49.3%) said "I feel confident using OPAC even if I only have library orientation". In addition, 100 (49.3%) also expressed that they had the necessary knowledge to use OPAC. All these prove that a larger percentage of the college students had the capability and capacity to use computer technologies effectively.

Table 5 Distribution of computer self-efficacy of students of Federal College of Education (Technical) Lagos

Statements	SA		A		D		SD	
	Freq	%	Freq	%	Freq	%	Freq	%
I feel confident using OPAC even if there is no staff around to show me how to use it	65	32.0	95	46.8	32	15.8	11	5.4
I feel confident using OPAC even if I have never used it before	38	18.7	107	52.7	47	23.2	11	5.4
I feel confident using OPAC even if I only have library orientation	45	22.2	100	49.3	51	25.1	7	3.4
I feel confident using OPAC if I see someone else using it before I try it myself	64	31.5	98	48.3	38	18.7	3	1.5
I feel confident to retrieve documents from the OPAC when needed	84	41.4	96	47.3	22	10.8	1	0.5
I have the necessary knowledge to use OPAC	74	36.5	100	49.3	27	13.3	2	1.0
I have control over the use of OPAC for my academic activities	67	33.0	110	45.2	25	12.3	1	0.5
I feel confident understanding terms/words relating to OPAC use	62	30.5	113	55.7	26	12.8	2	1.0
I feel it is quite easy to locate materials through the OPAC	89	43.8	84	41.4	24	13.3	3	1.5

Test of Hypothesis

Hypothesis: There is no significant relationship between computer self-efficacy and use of Online Public Access Catalogue by students of Federal College of Education (Technical) Lagos.

Table 6 showed that there is a significant positive relationship between computer self-efficacy and use of online public access catalogue (OPAC) by students of Federal College of Education (Technical) Lagos ($r = .430^{**}$; $df = 202$; $p < 0.01$). This means that as the computer self-efficacy of the college students increases; the use of online public access catalogue for academic activities by the college students also increases. Therefore, the null hypothesis is rejected and the alternative hypothesis accepted.

Table 6 Relationship between computer self-efficacy and use of online public access catalogue by students of Federal College of Education (Technical) Lagos

Variables	Mean	Std. Deviation	N	r	df	Sig (p)	Remark
Computer self efficacy	16.98	3.387	203	.430**	202	000	Significant
Use of OPAC	18.86	4.239	203				

Results of this study showed that the most used access points used to retrieve bibliographic information from the OPAC were titles of publications and names of authors. This implies that the respondents approached the library with specific publications in mind. They do not come into the library without knowing what they really want in terms of the publications to use. This concurs with the findings of the study conducted by Ariyapala and Edzan (2002) where most of their respondents (93%) indicated that they conducted title searches. Asokan and Dhanavandan (2015) also supports the findings of this study as they reported in their study that most of the searches conducted by their respondents (68.86%) through the OPAC were done with the use of the title. On the contrary, studies conducted by Mulla and Chandrashekara (2009) and Sankari et al. (2013) showed that majority of their respondents (96.70%) and (95.38%) searched the OPAC first through the use of author respectively.

Most of the respondents used OPAC twice a week and occasionally. This shows that the use of OPAC is not on a daily basis, but consulted whenever there is a need for them to engage in various academic activities. This supports the findings of Yusuf (2012) who studied the utilization of online public access catalogue (OPAC) at the Lagos State Polytechnic Library in Nigeria and reported that most of the respondents (36.94%0 used OPAC twice in a week). Also alluding to this, the study by Kumar and Vohra (2011) revealed that out of the total 190 users, only 13 (6.8 percent) used OPAC very frequently, almost one-third of users used frequently, and 53 (27.9 percent) used occasionally. In contrast to the findings of the study, Mulla and Chandrashekera (2009) in their study reported that most of the respondents (64.01%) indicated that they used OPAC daily.

Results showed that majority of the respondents had a high computer self-efficacy. This implies that most of the respondents have the required competence to utilize the computer and other related technologies for their benefit and advantage. They might have developed the competence through self-help or training received in the

institution. This competence could not have been achieved easily, it involves real efforts. This finding is corroborated by Eyitayo (2011) who reported that most of the respondents (58.9%) agreed that they possessed a high level of computer self-efficacy in the use of OPAC as they indicated that they were confident in searching OPAC.

Findings revealed that there was a significant positive relationship between computer self-efficacy and use online public access catalogue (OPAC) by students. As a result, it is expected that a student who is competent in the use of the computer will find it much easy to use OPAC when taught, than a student who cannot utilize a computer system. Compeau and Higgins (1995) concurs with this conclusion as they averred that computer self-efficacy has a major impact on an individual's expectations towards using computers. Sam, Othman, and Nordin (2005) also revealed that computer self-efficacy was found to be associated with attitudes toward computer technologies.

Conclusion and recommendations

The use of OPAC by students has changed the process of information retrieval in libraries, as the effectiveness and efficiency of this important product of information and communication technology (ICT) cannot be overemphasized. The fact that most students used OPAC quite frequently is an attestation to this. However, before OPAC can be used effectively, students must have a high level of computer self-efficacy. This is because a student who cannot operate the computer will find it very difficult to use the OPAC, as it is computer based. The provision of OPAC in libraries can even encourage apathetic clienteles to use the library as they would know that their time will be well maximized in the library. In order to improve the use of OPAC and to strengthen the computer self-efficacy of students, management of the college should ensure regular power supply through alternative power supply sources like solar, inverters and power generating sets. To improve computer self-efficacy of students, Information and communication technology (ICT) skills should be a regular feature of the outline that is used for library orientation. Efforts should also be made to make the OPAC a Web-based so that it can be accessed without coming to the library.

References

Adetimirin, A. (2015). An Empirical Study of Online Discussion Forums by Library and Information Science Postgraduate Students Using Technology Acceptance Model 3. *Journal of Information Technology Education*: Research, 14, pp. 257-269. Retrieved from http://www.jite.org/documents/vol14/JITEv14ResearchP257-269

Al-mamary, Y.H. & Shamsuddin, A. (2015). Testing of the Technology Acceptance Model in context of Yemen. *Mediterranean Journal of Social Sciences.* 6 (4). Retrieve from Doi 10.590/msss.2015.v6n4/p268.

Ariyapala, P.G. & Edzan, N.N. **(**2012). Foreign Postgraduate Students and the Online Catalogue at the University of Malaya Library. *Malaysian Journal of Library and Information Science,* 7(1): 57-67. Retrieved from http://www.e-journal.um.edu.my/.../article-view.php?

Asokan, L., & Dhanavandan, S. (2015). Awareness and Usage of Online Public Access Catalogue (OPAC) by Students and Faculty Members: A Case Study. *Journal of Emerging Trends in Computing and Information Sciences,* 6(4): 227-231. Retrieved from http://www.cisjournal.org/.../vol6no4_5.pdf

Bandura, A. (1999). A Social Cognitive Theory of Personality in L. Pervin and O. John (ed.) in *Handbook of personality* (2nd ed., pp. 154-196) Newyork: Guiford Publications (Reprinted in D. Cervone and Y. Shoda eds., The Coherence of personality: New York: Guiford Press.

Compeau, D. & Higgins, C. (1995). Computer self-efficacy: Development of a Measure and Initial Test. *MIS Quarterly*, 19 (2), 1989-211.

Eyitayo, O.T. (2011). Do Students Have the Relevant ICT Skills They Need to do their projects? SIGITE'11. West-Point, New York USA. Retrieved from http://www.dl.acm.org/citation.cfm?id=2047668

Husain, R & Ansari, M.A. (2006). From Card Catalogue to Web OPACs. *DESIDOC Bulletin of Information Technology*, Vol 26 (2) pp. 41-47. Retrieved from http://www.lsrj.in/UploadedArticles/465.pdf

Kani-Zabihi, E., Ghinea, G. & Chen, S.Y. (2008). User Perceptions of Online Public Library Catalogues. *International Journal of Information Management*. Vol. 28 (6), pp. 492-502. Retrieved from http://www.dx.doi.org/10.1016/j.ijinfomgt.2008.01.007

Kumar, S., & Vohra, R. (2011). Online Public Access Catalogue Usage at Panjab University Library, Chandigarh. DESIDOC *Journal of Library & Information Technology*, 31(4): 302-310. Retrieved from http://www.publications.drdo.gov.in/ojs/index.../442

Moja, T. (2000). Nigeria Education Sector Analysis: An Analytical Synthesis of Performance and Main Issues. Newyork: World Bank.

Mulla, K.R. & Chandrashekara, M. (2009). A Study on the Effective Use of Online Public Access Catalogue at the Libraries of Engineering Colleges in Karnataka, India. Retrieved from

http://www.academicjournals.org/IJLIS/article

Oritsebemigho, T.L.O. (2014). An Appraisal of the Revised Nigeria Certificate in Education Minimum Standards (English Language Curriculum). *European Scientific Journal, Special Edition.* Retrieved from http://www.eujournal.org/index.php/esj/.../3830

Priyanwada, A.W.A & Wanigasooriya, L. (2008). A Study of Problems Faced By the Online Public Access Catalogue (OPAC), Users in Sri Lankan University Libraries. Department of Library and Information Science, University of Kelaniya. Sri Lanka.

Ramayah, T., & Bushra, A. (2004). Role of Self Efficacy in E-Library Usage among Students of a Public University in Malaysia. *Malaysian Journal of Library and Information Science*. Vol. 9 (1), pp. 39-57. Retrieved from http://www.researchgate.net/publication/228781693

Reitz, J.M. (n.d.). Online Dictionary for Library and Information Science. Westport: USA: Libraries Unlimited. Retrieved from http://www.abc-clio.com/odlis_o.aspx

Sam, H.K., Othman, A.E.A. & Nordin, Z.S. (2005). Computer Self Efficacy, Computer Anxiety and Attitudes towards the Internet: A Study among Undergraduates in Unimas. *Educational Technology and Society*. 8 (4) pp. 205-219. Retrieved from http://www.ifets.info/journals/8_4/19.pdf

Sankari, L.R., Chinnasamy, K., Balasubramanian, P. & Muthuraj. R. (2013). A Study on the Use of Online Public Access Catalogue (OPAC) by Students and Faculty Members of Unnamalai Institute of Technology in Kovilpatti (Tamil Nadu). *International Journal of Library and Information Studies*, 3(1): 17-26. Retrieved from http://www.ijlis.org/img/2013...3/17-26.pdf

Shrestha, N. (2008). A study on students' use of library resources and self efficacy. Unpublished thesis submitted to the Central Department of Library and Information Science, Faculties of Humanities and Social Sciences, Tribhuvan University, Kirtipur, Katmandu, Nepal

Surendran, P. (2012). Technology Acceptance Model: A Survey of Literature. Retrieved from http://www.thejournalofbusiness.org/index.php/.../16

Thanuskodi, S. (2012). Use of Online Public Access Catalogue at Annamalai University Library. *International Journal of International Science*. 2

(6) 70-74. Retrieved from http://www.dx.doi.10.5923/j.ijis.20120206.01

Waldman, M. (2003). Freshmen's Use of Library Electronic Resources and Self-Efficacy. *Information Research*. Vol. 8 (2) paper 150. Retrieved from http://www.informationr.net/ir/8-2/paper150.htm.

Yusuf K.F. (2012). Utilization of Online Public Access Catalogue (OPAC) at the Lagos State Polytechnic Library in Nigeria. *Journal of Research in Education and Society*; 3(3): 19-27. Retrieved from http://www.icidr.org

About the Authors:

Benjamin Nwobu is with the Federal College of Education (Technical) Lagos, Nigeria. Olawale Oyewole is of the Department of Library, Archival and Information Studies, University of Ibadan, Nigeria. He can be reached at oyewolebaba01@yahoo.com. Julius Kayode Apotiade is with the Department of Library, Archival and Information Studies, University of Ibadan, Nigeria.