

PERCEIVED INFLUENCE OF COMPUTER SELF-EFFICACY ON THE USE OF ONLINE DATABASES AND ONLINE PUBLIC ACCESS CATALOGUE (OPAC) FOR ACADEMIC RESEARCH BY POSTGRADUATE STUDENTS IN UNIVERSITIES IN BENUE STATE, NIGERIA

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Abstract

This study investigated perceived influence of computer self-efficacy on the use of online databases and Online Public Access Catalogue (OPAC) for academic research by postgraduate students in universities in Benue State, Nigeria. Two specific objectives with two corresponding research questions guided the study and two hypotheses were formulated and tested at 0.5 level significance. The study adopted a descriptive survey design. The population of the study was 3821 registered postgraduate students in three university libraries in Benue State. The sample size was 362 postgraduate students selected using multistage sampling procedure. The instrument for data collection was self structured questionnaire titled "Perceived Influence of Computer Self Efficacy on the use of online database and online public access catalogue for academic research by postgraduate students questionnaire (PICSE ODOPACARPSQ). The instrument was validated and its reliability established using Cronbach Alpha method where a coefficient of 0.86 was obtained. Data collected were analysed using descriptive statistics of mean and standard deviation to answer the research questions while ChiSquare Goodness of Fit was used to test the hypotheses at 0.05 level of significance. Findings of the study revealed that, postgraduate students' computer self-efficacy influences their use of online databases, and online public access catalogue in universities in Benue State. The study concluded that as postgraduate students' confidence in using computers increases, so does their likelihood of utilizing electronic resources for enhancing their academic research. Based on the findings, recommendations were made that universities in Benue State should design and implement computer training programmes that focus on basic computer skills as well as advanced techniques relevant to access and utilization of online database and online public access catalogue. This is in addition to incorporating digital literacy components into the curriculum so as to ensure that postgraduate students develop the necessary skills and confidence to effectively use electronic information resources.

Keywords: Academic Research, Computer Self-Efficacy, Online Databases, Online Public Access Catalogue (Opac).

Introduction

University library is a hub of academic activity, and in today's digital age, electronic information resources play a vital role in supporting teaching, learning, and research,

Franklina A. Y. and Florence D.P. (2017). Electronic information resources refer to the various digital materials and services provided by the library, including e-books, e-journals, databases, online tutorials, and other digital contents. These resources offer a wealth of information and knowledge at your fingertips, accessible anywhere, anytime, and provide unparalleled opportunities for exploration, discovery, and scholarship. With electronic information resources, students, faculty, and researchers can access a vast array of academic contents, stay up-to-date with the latest developments in their field, and collaborate with others across the globe. In this digital landscape, the university library is committed to providing high-quality electronic information resources, innovative services, and expert support to facilitate academic success and excellence. “The university library is a treasure trove of knowledge, and with the advent of technology, accessing this knowledge has become easier and more convenient than ever. Two essential tools that facilitate access to the library's vast collections are online databases and online public access catalogs (OPACs).

Online databases are electronic repositories that store a vast array of academic contents, including journals, articles, books, and other resources. These databases are subscription-based and provide access to high-quality, peer-reviewed contents that support research and learning. With online databases, users can search, browse, and access a vast array of resources from anywhere, at any time. Online databases are a collection of electronic information sources (e-journals/e-books) by publishers from various fields and disciplines. Examples of online database includes: HINARI, EBSCO Host, Emerald, Pubmed, JSTOR and High Beam, (Ogbole & Morayo, 2017). Some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors (Okello-Obura, 2010). With the advent of the internet, postgraduate students, researchers and academics have recognized the capabilities of the information and communication technologies as efficient means to share results and to get around barriers by full transfer of intellectual property rights from the author to the publisher, it is also a means of improving the slow turn-over of traditional publishing. Majid and Tan (2012) emphasize that the amazing technological advancements have opened new horizons for information creation, duplication, storage, access, distribution and presentation. Digitization of information is resulting in access to unbelievable volumes of information. With the advancement of ICT and subsequent development of Online Public Access Catalogue (OPAC), the traditional concept of access to information resources which many scholars identified to be prone to numerous challenges has changed. OPAC has brought a changing relationship between libraries and their information seekers in the changing ICT world (Ogbole & Morayo, 2017).

Online Public Access Catalogue (OPAC) is an information retrieval tool considered by short bibliographic records, mainly of books, journals, audiovisual and non-book materials available in a library (Narayanaswamy, 2019). It is a helpful tool for postgraduate students to access and locate electronic information resources efficiently and effectively anytime, anywhere in the university libraries all over the world. Online Public Access Catalogue (OPAC) is the most modern electronic form of library catalogue, whereby bibliographic

records of all the documents collection are stored in the computer memory or server. According to Gohain and Saikia (2013), OPAC is one of these technologies that provide access to any of the information contained in the record for an item in the university library. In order to achieve this goal, Msagati (2016) affirms that most libraries have put in place adequate resources to support teaching and research; trained qualified librarians capable of organizing the information contents in the most scientific and helpful order for the students who can access the library from their comfort zone. These resources as well as e-library catalogue are used to facilitate easy storage and retrieval of information resources in the university library (Tofi, 2019).

On the other hand, an online public access catalog (OPAC) is an online catalog of the library's holdings, allowing users to search and discover the library's physical and digital collections. OPACs provide a user-friendly interface to search, browse, and access the library's resources, including books, e-books, journals, and other materials. Online databases and OPACs form the backbone of the library's digital infrastructure, providing a powerful tool for researchers, students, and faculty to discover, access, and utilize the library's vast resources. With these tools, users can: Search and access a vast array of academic content, discover new resources and materials, explore different formats and genres, access resources remotely, collaborate and share resources with others. In this digital age, online databases and OPACs have become indispensable tools for academic success, and the university library is committed to providing high-quality resources and innovative services to support the academic community most especially postgraduate students.

Statement of the Problem

The emergence of electronic information resources has tremendously transformed information handling and management in academic environments in university libraries in particular. Through the use of electronic resources, researchers and students; now have access to global information resources, particularly the Internet for their scholarly intercourse. Access to electronic information resources offers opportunities to obtain accurate and timely literature. An observation by the researchers shows that there is low usage of electronic resources in university library. However, annual library reports from university libraries in Benue (2019), reveal lack of retrieval skills and other computer skills limit students' ability to effectively access electronic resources. It was posited that electronic information resources were not frequently used as the majority of the respondents indicated that they use the resources only once a week and less than once a month.

The researchers observed further that most postgraduate students are aware of the electronic information resources available in university libraries but do not fully utilized them for their research. As they are often seen browsing through the shelves in research of information resources. Could this be due to their lack of computer self-efficacy or retrieval skills to use computers in searching for relevant electronic information resources for their research activities? As a result, there is low usage of these electronic resources. Based on the

above, the researchers investigated the perceived influence of computer self-efficacy on the use of online databases and Online Public Access Catalogue for research by postgraduate students in universities in Benue State, Nigeria.

Objectives of the study

The main objective of this study was to investigate perceived influence of computer self-efficacy on the use of online databases and Online Public Access Catalogue for research by postgraduate students in universities in Benue State.

The Specific objectives of the study were to:

1. determine the influence of postgraduate students' computer self-efficacy on the use of online databases in universities in Benue State.
2. ascertain the influence of postgraduate students' computer self-efficacy on the use of Online Public Access Catalogue in universities in Benue State.

Research questions

1. What is the perceived influence of postgraduate students' computer self-efficacy on the use of online databases in universities in Benue State?
2. What is the perceived influence of postgraduate students' computer self-efficacy on the use of Online Public Access Catalogue in universities in Benue State?

Statement of Hypotheses

1. Postgraduate students' computer self-efficacy does not significantly influence their use of online databases in universities in Benue State.
2. Postgraduate students' computer self-efficacy does not significantly influence their use of Online Public Catalogue in universities in Benue State.

Literature Review

Electronic information resources (EIR) are information materials in digital format that can only be accessed electronically using computer device or mobile device. IGI Global (2019) describes electronic information resources (EIRs) as electronic products and information materials that deliver a collection of data, be it text referring to full text databases, e-journals, e-books, e-newspaper, image collections, theses, conference papers, government papers, scripts, and monographs in an electronic form. Anyim (2018) defined electronic information resources as information resources in which contents could be accessed using internet; CD-ROMs, electronic books (e-books), electronic journals (e-journal), electronic indexes, digital reference materials, online databases, and other e-collection. e-book is an electronic version of a traditional printed book that can be read with the use of a personal computer, android phones, or tablets by postgraduate students. An e-Book is a non-editable, reflow able book that is converted to a digital format to be read on any digital device such as computer screens or mobile devices. Electronic books, commonly known as e-books, are becoming popular they are current and have many advantages over hardcopy books. These advantages spread across different categories of users and providers, including readers, publishers, authors and libraries (Jeong, 2012). Electronic books are

publications modelled on traditional publishing products, but they can be read in the form of computer files, transferred as digital files or downloaded over the internet on to desktop computers, laptops and other devices enabled to handle digital files.

The importance of electronic information resources to postgraduates has forced them to learn how to access and use a wide variety of resources judiciously and skillful use of these resources as research and learning tool among them to be successful in their research task (Odede,2018). With EIRs postgraduate students acquired self-efficacy which is the bedrock for human motivation that are necessary for personal accomplishment. It is an indispensable element on the use of electronic information resources, as technology is rapidly evolving; postgraduate students are expected to possess a high level of self-efficacy to function effectively in their studies and information society. According to Singh (2011), self-efficacy reflects an individual's confidence in his/her ability to perform the behaviour required to produce an outcome and its thought to directly impact the choice to engage in a task, as well as the effort that will be expended and the persistence that will be exhibited.

Contrary, an individual who possesses low self-efficacy is less expected to persevere doing challenging activities. Computer self-efficacy refers to a person's perception of his computing ability. Fundamentally, this suggests that a person's perception of his ability in carrying out certain tasks can very much depend on their past experiences with computer tasks. It is germane to know that computer self-efficacy is not a static concept; it is continually being actualized in an individual's mind, which Bandura theory (1977) refers to as "mastery experience". For example, given the right technical infrastructure, postgraduate students may value their interpersonal skills, maintain ICT competence by pursuing a goal to its logical conclusion. As a result, postgraduate students' computer self-efficacy in that area will surely contribute to positive their research productivity. A postgraduate student is a student studying for higher academic degree or professional, after successful completion of his/her first degree from a recognized higher institution. Postgraduate studies according involved learning and studying for academic or professional degrees, academic or professional certificates, academic or professional diplomas, or other qualifications for which a first or bachelor's degree generally is required, and it is normally considered to be part of higher education. Postgraduate student computer self-efficacy is explored in many studies on electronic information resources.

Empirically, the findings of Odede (2018) examined awareness and use of online databases among postgraduate students in library schools in South-South Nigeria. Three research questions guided the study. The descriptive survey was adopted for this study. The targeted population for this study was 126 postgraduate students. The sample size is 121 postgraduate students. The data collected were analysed using Statistical tools such as frequency count and simple percentage. Findings indicate that the level of awareness of online databases among LIS postgraduate students in the three institutions under study is low and this affected their usage as they were underutilized. Furthermore, the findings of the study identify lack of awareness of the existence of relevant online databases, inconsistency

of electricity supply, lack of/inadequate information (Internet) skill as major impediments to the access to and use of online databases. The study concluded that Libraries are subscribing to a large number of online databases in order to meet the increasing demands of its users. However, the findings of this study revealed that the level of awareness of the availability of online databases in the institutions is still low. The study also concludes that the online databases available in the institutions under study were under-utilized. Therefore, the study recommends that the libraries need to intensify their awareness campaigns about the online databases that the library subscribed to.

The study is related to the present study because both examined use of online databases among postgraduate students. However, both studies differ in that, the reviewed study examined awareness and use of online databases while the researcher looked at perceived influence of computer self-efficacy on online databases. The both studies further differ in terms of geographical locations. The study under review was carried out in South-South Nigeria, while the present study was carried out in Benue State with the intention of covering three universities.

Tofi, Tarbo, Agor and Tyopev (2021) investigated the perceived impact of OPAC on effective retrieval of information resources by postgraduate students in Benue State University, Makurdi. The study looked at the perceived impact of OPAC on effective retrieval of information resources, purpose of utilizing OPAC by postgraduate students, search strategies used by postgraduate students for effective retrieval of information resources, challenges as well as strategies to enhance the use of OPAC by postgraduate student for effective retrieval of resources. Five (5) objectives with corresponding research questions guided the study. The study adopted descriptive survey research design. The population of the study was made up of 38 postgraduate students who are registered with Benue State University Library. However, the census sampling was adopted for the study due to the small nature of the population. The instrument for data collection was self-structured questionnaire titled “Perceived Impact of OPAC on Information Retrieval Questionnaire” (PIOPACIRQ) which was validated by experts and a reliability coefficient of 0.947 was obtained. Data were collected and analyzed using frequent count and means.

Findings of the study revealed that, there is a high perceived impact of OPAC on effective retrieval of information resources by postgraduate students in Benue State University, Makurdi. Finding also revealed that, postgraduate students in Benue State University, Makurdi utilize OPAC for various purposes such as to know the available resources in the university library, to locate books by author, title and subject, assists in obtaining books from the university library, among others. Finding also revealed the search strategies used by postgraduate students for effective retrieval of information resources in Benue State University Makurdi to include by author, title, subject and edition. The study further revealed the challenges hindering the use of OPAC for effective retrieval of information resources in Benue State University, Makurdi to include: lack of skilled library professionals to assists students, lack of orientation from library staff, lack of time to retrieve

the vast information, slow internet connectivity speed, among others. Findings finally revealed some key strategies to enhance the use of OPAC for effective retrieval of information resources by postgraduate students in Benue State University, Makurdi which include: employment of skilled/competent library staff, need to design user-friendly OPAC template, improvement of internet connectivity speed, and organizing user education program to orientate postgraduate students on the use of OPAC, among others.

The study is related to the present study because in that, both investigated use of OPAC and information resources by postgraduate students in Benue State. However, both studies differ in that, the reviewed study looked at perceived impact of OPAC on effective retrieval of information resources while the present study looked at perceived influence of computer self-efficacy on use of OPAC for research. The both studies further differ in terms of scope. The study under review was carried out in Benue State University, while the present study was carried out in Benue State with the intention of covering three universities. The both studies further differ in terms of statistical tools employed. As the present study used descriptive statistics of mean and standard to answer its research questions and Chi-square statistics to test its hypotheses at 0.05 level of significance. while the study under review used descriptive statistics of frequent count and means in answering its research questions. This is the gap the present study intends to cover.

Azonobi and Uwaifo (2020) explored user behaviour and self-efficacy as elements to postgraduates' use of electronic information resources in Federal Universities in Southern Nigeria and reveals psychological factors such as trust on the information source and perceived usefulness, social factors like referral from course-mates and lecturers as the factors that influenced the use of electronic information resources like electronic journals such as African Journals Online (AJOL), electronic books, electronic theses and dissertation, electronic magazines and other electronic databases and high self-efficacy level increased the use of electronic information resources among the respondents. Theoretically, the study anchor on Self-Efficacy Theory propounded by Albert Bandura in 1977 which emphasized that, people beliefs in their capabilities to produce desired effects by their own actions. The most important determinants of the behaviours people choose to engage in and how much they persevere in their efforts in the face of obstacles and challenges.

Research Methodology

The study adopted a descriptive survey design. The study was carried out in Benue State, Nigeria. The population of the study was 3821 registered postgraduate students in the three university libraries in Benue State. The sample size was 362 registered postgraduate students in the three university libraries. Muti-stage sampling procedures were employed for the study. The instrument for data collection titled "Perceived Influence of Computer Self Efficacy on the use of online database and online public access catalogue for academic research by postgraduate students questionnaire (PICSEODOPACARPSQ) was used. The questionnaire had 25 items

which were used to elicit information relating to the objectives of the study. The questionnaire was further subdivided into three (3) clusters: A and B. The instrument was face and content validated by three experts, two in the of Library and Information Science, one in the field Test and Measurement, all from the College of Education, Joseph Sarwuan Tarka, University Makurdi. To ensure the reliability of the instrument, a trial testing was carried out. The instrument was administered on 35 postgraduate students of Federal University of Technology, Minna, Niger State. Data obtained from the trial testing were subjected to reliability analysis using Cronbach Alpha method. Cronbach Alpha yielded a reliability coefficient of 0.86. Data collected were analyzed using descriptive statistics of mean and standard deviation to answer the research questions while Chi-Square Goodness of Fit was used to test the hypotheses at 0.05 level of significance.

Results

Research question 1: The perceived influence of postgraduate students' computer self-efficacy on the use of online databases in universities in Benue State

S/No	Items	N	Mean	SD	Decision
1	Postgraduate students' ability to use Local Area Network available over the internet influences the use of online database.	343	3.14	.88	High Influence
2	Postgraduate students' ability to access hosted websites over the internet influences the use of online database	343	3.00	.84	High Influence
3	Postgraduate students' ability to access web browser over the internet support their research works with the provision of print and non-print resources.	343	3.17	.92	High Influence
4	Postgraduate students' ability to use hyperlinks to access full-text articles with rich content influences the use of online database.	343	3.08	.88	High Influence
5	Postgraduate students' ability to retrieve, reference, and share of data over the web influences the use of online database.	343	2.95	.90	High Influence
Cluster Mean			3.07	0.89	High Influence

Table 1: Mean and Standard Deviation of the perceived influence of postgraduate students' computer self-efficacy on the use of online databases in universities in Benue State N =343

Data presented in Table 1 revealed that, items 1, 2, 3, 4 and 5 have mean values ranging from 2.95 – 3.17 which are above the benchmark of 2.50. The table also revealed close Standard

Deviation values ranging from .88 – .92 which showed that the respondents were homogeneous in their responses. The grand mean of all the items was revealed to be 3.07 and SD= .89. With this grand mean, it can be deduced from this finding that postgraduate students' computer self-efficacy positively influences their use of online database in universities in Benue State.

Research Question 2: The perceived influence of postgraduate student computer self-efficacy on the use of Online Public Access Catalogue in universities in Benue State.

Table 2: Mean and Standard Deviation of the perceived influence of postgraduate students' computer self-efficacy on the use of OPAC in universities in Benue State N =343

S/No	Items	N	Mean	SD	Decision
11	Postgraduate students' ability to use digital device over the web to access availability of books on shelves influences their use of online public access catalogue.	343	3.16	1.01	High Influence
12	Postgraduate students' ability to use digital device over the web to know the bibliographic detail of title/documents influences their use of online public access catalogue.	343	2.99	.98	High Influence
13	Postgraduate students' ability to use digital device over the web to know latest addition list, influences the use of online public access catalogue.	343	3.06	1.02	High Influence
14	Postgraduate students' ability to use digital device over the web for search of different type of documents influences the use of online public access catalogue.	343	2.96	.98	High Influence
15	Postgraduate students' ability to use digital device over the web to check document issued or not influences the use of online public access catalogue.	343	2.86	.95	High Influence
Cluster Mean			3.01	0.99	High Influence

Data presented in Table 2 revealed that respondents agree with all items (11-15) with mean scores ranging from 2.86 – 3.16 which are above the benchmark of 2.50. The table also revealed close Standard Deviation values ranging from .95 – 1.01 which showed that the

respondents were homogeneous in their responses. The grand mean of all the items was revealed to be 3.01 and SD= .99. indicating that postgraduate students' computer Self-efficacy influences their use of Online Public Access Catalogue in universities in Benue State

Hypothesis1. Postgraduate students' computer self-efficacy does not significantly influence their use of online database in universities in Benue State.

Table 3: Chi Square test of goodness of fit analysis of the influence of postgraduate students' computer self-efficacy on the use of online databases in universities in Benue State.

Response Options	Fo	Fe	A	Df	χ^2 -cal	Asymp. Sig.	Remark
VHI	124	85.75	0.05	3	54.528 ^a	0.000	Significant S, R H ₀
HI	139	85.75					
LI	56	85.75					
VLI	24	85.75					
TOTAL (N)	343						

N=Total number of respondents. Fo=Observed frequency, Fe=expected frequency, df= degree of freedom

Fo=observed frequency, Fe=expected frequency, α =Alpha Level, χ^2 -cal= chi Square test of goodness of fit Calculated value, Asymp.

Sig=Asymptotic significance value. Note: Result is significant, when p-value is less than alpha value (H₀ is rejected) at Alpha Level of 0.05.

Table 3 shows the Chi-square test of goodness of fit calculated value of 54.528^a, degree of freedom df =3 and a sig (P-value=0.00) which is less than the alpha value (α =.05). Since $P < .05$, the result is significant, therefore the null hypothesis is rejected. This implied that, postgraduate students' computer self-efficacy influences their use of online database in universities in Benue State.

Hypotheses 2: Postgraduate students' computer self-efficacy does not significantly influence their use of online public access catalogue in universities in Benue State.

Table 4: Chi Square test of goodness of fit analysis of the influence of postgraduate students' computer self-efficacy on the use of Online Public Access Catalogue in universities in Benue State

Response Options	Fo	Fe	A	df	χ^2 -cal	Asymp. Sig.	Remark
VHI	127	85.75	0.05	3	43.499 ^a	0.000	Significant S, R H ₀
HI	131	85.75					
LI	42	85.75					
VLI	43	85.75					
TOTAL (N)	(343)						

Note: Result is significant, when p-value is less than alpha value (H₀ is rejected) at Alpha Level of 0.05.

Table 2 shows the Chi-square test of goodness of fit calculated value of 43.499^a, degree of freedom=3 and a sig (P-value=0.00) which is less than the alpha value ($\alpha=.05$). Since $P<.05$, the result is significant, therefore the null hypothesis is rejected. This implied that, postgraduate students' computer self-efficacy influences their use of Online Public Access Catalogue in universities in Benue State.

Discussion

The findings of the study revealed that postgraduate student's computer self-efficacy influences their use of online databases in universities in Benue State. The major findings were that, postgraduate students' ability to access web browser over the internet to support their research works with the provision of print and non-print resources, use Local Area Network available over the internet and use hyperlinks to access full-text articles with rich content influences the use of electronic information resource. Similarly, a test of hypothesis revealed that postgraduate student's computer self-efficacy has positive significant influence on their use of online databases in universities in Benue State. This finding corroborates with that of Odede (2018) whose findings revealed that university libraries subscribing to a large number of online databases in order to meet the increasing demands of its users significantly improved the study habit of postgraduate students.

Lastly, the findings of the study revealed that postgraduate students' computer self-efficacy influences their use of Online Public Access Catalogue in universities in Benue State. The major findings were that, postgraduate students' ability to use digital device over the web to access availability of books on shelves, use digital device over the web to know latest addition list, and their abilities to use digital device over the web to know the bibliographic detail of title/documents influences their use of electronic information resources. Similarly, a test of hypothesis revealed that postgraduate student's computer self-efficacy has significant influence on their use of Online Public Access Catalogue in universities in Benue State. This finding corroborates with that of Tofi, Tarbo, Agor and Tyopev (2021) whose findings revealed that, there is a high perceived impact of Online Public Access Catalogue on effective retrieval of information resources by postgraduate students. Tofi, Tarbo, Agor and Tyopev further revealed that postgraduate students utilize Online Public Access Catalogue for various purposes such as; to know the available resources in the university library, to locate books by author, title, subject, edition, assists in obtaining books from the university library, among others.

Conclusion and Recommendations

The study concluded that as postgraduate students' confidence in using computers increases, so does their likelihood of utilizing electronic resources for enhancing their research. This study underscores the pivotal role of computer self-efficacy in shaping the academic behaviour and resource utilization patterns of postgraduate students. The conclusion emphasizes the transformative impact of enhanced computer self-efficacy on the research behaviour of postgraduate students. As confidence in using computers increases, these

students are more likely to embrace and leverage electronic resources, leading to a more technologically proficient and research-oriented academic community.

Based on the findings of the study, the following recommendations were made:

1. Universities in Benue State should design and implement computer training programmes that focus on basic computer skills as well as advanced techniques relevant to access and utilization of online database resources.
2. Universities should incorporate digital literacy into the curriculum so as to ensure that postgraduate students develop the necessary skills and confidence to effectively use online public access catalogue (OPAC).
3. Universities should establish user-friendly support services such as help desks and tutorials to assist postgraduate students in navigating electronic resources. This can include guidance on accessing online databases, and effectively utilizing online public access catalogue (OPAC).

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