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DATA RETRIEVAL SKILLS FOR E-RESOURCES POSSESSED BY UNDERGRADUATES OF LIBRARY AND INFORMATION SCIENCE IN NIGER DELTA REGION, NIGERIA

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ABSTRACT

The main purpose of this study was to interpret the data retrieval skills for e-resources possessed by undergraduates Library and Information Science in universities in Niger Delta Region of Nigeria with specific focus on informational, operational and strategic retrieval skills. Descriptive survey design was adopted for the study. The population of this study comprised 2,147 undergraduates from the department of Library and Information Science in universities in the Niger Delta Region, Nigeria. Purposive sampling technique was used to select a sample size of 429. The instrument used for data generation is a questionnaire tagged "Data Retrieval Skill Questionnaire (DRSQ)". Copies of the questionnaire were administered by hand with the help of five research assistants. In analyzing the data collected from the instrument administered, mean and standard deviation were used to analyze the responses for research question while t-test was used to test the hypothesis formulated for the study. The result of the study revealed that that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed Data retrieval skills (informational, operational and strategic skills) for e-resources in universities in the Niger Delta region. The study calls for government and university management to provide adequate fund and facilities for Library and Information Science programme in order to continue to equip students with relevant skills and competencies needed to utilize the e-resources in universities in the region. This study explored data retrieval skills for e-resources possessed by undergraduates of library and information science in the Niger Delta Region, Nigeria.

Keywords: Information retrieval skills, e-Resources, Library and Information Science

Introduction

The evolution and introduction of digital information resources into the academic world has tremendously improve the academic curriculum of most institutions of learning. This drift has a captivating effect on its' operators, which eventually compel users to have some informational, operational and strategic skills on its usage. Electronic resources, according to Mittal and Bala (2013), are resources available on the internet which are data or information on different subjects and topics. They are referred to as those materials that require computer access, whether through a personal computer, mainframe or hand held

mobile devices. They further stated that e-resources have provided many possibilities and opportunities for providing faster and quicker access to information. Electronic resources, according to Hawthorne (2008), date back to the mid-1960s with the introduction of the machine readable catalogue (MARC), which was followed by the online public access catalogues (OPACs). In the late 1960s, bibliographic databases were developed, followed by CD-ROM databases in the late 1980s, on-line databases and by web based (internet) databases at the turn of the 21st century, which also saw the introduction of electronic serials and electronic book. Ekenna and Iyabo (2013:6) stated that "e-resources are the bedrock of provision of accurate and timely information for better education''. They aid in the retrieval of huge amount of information for teaching, learning and research. According to Thanuskodi (2012), e-resources are electronic representation of information which is available in various forms like e-books, digital libraries, online journal magazines, etc. Shidi and Uganneya (2013), defines E-Resources as sources of information that are available and accessible electronically through the use of computers. This means that, they are resources that are bound to other electronic means before they can be accessed. They are research tools that support the printed information resources in the orthodox library setting. Terms such as File transfer protocol, e-journals, website, email, Gmails, ebooks etc, are associated with the use of electronic resources.

The adequate use of electronic resources may be influenced by undergraduates' retrieval skills. It therefore implies that undergraduates without proper information retrieval skills may not be able to adequately use the electronic resources. Member, Famaren and Ternenge (2021), defines Information retrieval skill as the ability and competences to find information in such a way that non-relevant data are excluded while relevant information is found. Davenport (1998) defined information retrieval (IR) as the process of providing answers to client's information needs. It is thus concerned with the collection, representation, storage, organization, accessing, manipulation, and display of the information items necessary to satisfying those needs. According to Rowley (1988), information retrieval (IR) is concerned with the exploitation of the information and other contents of documents. The establishment of various large databases, which are mounted on computers and made available to anyone who wishes to search them, has a significant impact on the effectiveness and efficiency of the retrieval of information.

Information retrieval, according to Shuib and Abdullah (2010), can be traced back to 1960s in which the management of full text and multimedia document has been electronically catalogued in a range of models and systems. According to them, Information Retrieval was designed to facilitate user retrieving relevant information that relate to their desired needs effectively and efficiently. As stated by them, information retrieval system's

function is to inform the users about the existence or non-existence of documents related to users' requests. They further asserted that information retrieval is not just a system that stores and retrieves information but rather consists of a set of components which are interrelated to facilitate searching process. Information retrieval tools can be in any form of printed or electronic catalogue, index, bibliographic records or application that facilitates information retrieval and some of the tools includes online public access catalogue (OPAC), Internet search engines, subject directories, online databases and digital library for retrieving information.

For information seekers (particularly the undergraduates) to be able to retrieve information, they should possess information retrieval skills. Information retrieval skills are skills that are used to access electronic information. According to Obuh (2009), students must acquire and practice the skill necessary to retrieve information from electronic resources. Gui (2007) stated that to surmount the problem of retrieving information, students may require a combination of information retrieval skills which include informational retrieval, operational retrieval and strategic retrieval skills to make the process of retrieving information a simple task.

According to Gui (2007), informational retrieval skills include those skills needed to navigate, select the appropriate information, evaluate the information and re-use information. According to him, Informational retrieval skills entail being able to handle the changing contents of computer and information sources and knowing where and how to look for the resources. He went further by saying that operational retrieval skills include the ability to operate computers, Internet connection and their basic applications. According to him, students need to learn to operate the computer and understand how the information systems are organized by learning the basic skills such as the use of keyboard, mouse, and disk management. Learning the standard software (word processing, databases and others) and networking applications such as Internet, electronic mail and others are also required for retrieval of information. For instance, McGuigan (2001) is of the opinion that the level of computing and Internet experience gained by students prior to entering higher education might influence their readiness to use the library's electronic resources. Also strategic retrieval skills are skills needed to plan, create appropriate queries and search terms which would enable the students to retrieve information.

Dutton (1990) suggested that the skills required to maximize the potential of electronic resources are much greater than those required for searching printed sources. According to him, the skills include knowledge of the structure of the database and the instruction which must be imputed into the computer by the searcher as well as the understanding of the ways in which the instructions are linked with one another. To this end, Brophy (1993) stated that users do not often appreciate the skills required to search these resources stating

that they are deceptively easy to use. The ability to find and retrieve information effectively is a transferable skill useful to future life as well as enabling the position and successful use of the electronic resources whilst at university. Brophy (1993:55) further argued that libraries must "reach a position where the acquisition of information skills is acknowledged as one of the key learning objectives for every student entering a university, so that no student leaves without being fully equipped to cope with the information intensive world--the information society-as an end–user". Skill in information retrieval is paramount if the undergraduates are to make use of electronic resources; it is apparent that they need the required skills to access and utilize the e-resources.

Statement of the Problem

The primary aim of any citadel of learning is to expose the truth about the world we live in. This is seen in the sciences, social sciences, humanities, amongst many other disciplines offered as courses of study in our tertiary institutions. Undergraduates in these institutions need information resources to help them with the process of acquiring the knowledge. They need information resources for one reason or the other. These information resources are available in different formats; print and electronic formats.

It has been observed that electronic resources are currently making waves in the world of today. Students across the globe access and use them primarily to support their academic work. Library and Information Science students in the Niger Delta Region should not be left out in the use of these invaluable electronic resources. They need the resources to support their academic work as well.

However, preliminary observation has shown that undergraduates of library and information science do not make adequate use of these e-resources as it should be. The inadequate use may be as a result of inadequate data retrieval skills such as informational, operational and strategic retrieval skills. Therefore, this observation requires an empirical study to understand the actual situation and proffer appropriate solutions to the identified situations/problems. Therefore, this study is set out to investigate the data retrieval skills for e-resources possessed by Undergraduates of Library and Information Science in universities in the Niger Delta Region, Nigeria.

Research Questions

The following research questions guided the study:

1. What are the informational retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria?
2. What are the operational retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria?

3. What are the strategic retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria?

Hypothesis

The following null hypothesis was tested at 0.05 level of significance.

1. There is no significant difference between the mean rating of male and female undergraduates of Library and Information Science on information retrieval skills possessed for e-resources in universities in the Niger Delta Region of Nigeria

Research Method

The study adopted descriptive survey design to determine the data retrieval skills for e-resources possessed by undergraduates of Library and Information Science in Niger Delta Region of Nigeria. The population of this study comprised 2,147 undergraduates from the Department of Library and Information Science in the Niger Delta Region, Nigeria. The distribution of undergraduates of Library and Information Science in Niger Delta by their universities are as follows: Abia State University, Uturu (317); Ambrose Ali University, Ekpoma (284); Delta State University, Abraka (784); Imo State University, Owerri (540) and University of Calabar, Calabar (167). The data was obtained from the departmental records of the various universities (2021/2022) academic session. Purposive sampling technique was used to select 20% of undergraduates from each university. This brought the sample size of the study to a total of 429 respondents.

The instrument used for data generation is a questionnaire tagged "Information Retrieval Skill Questionnaire (IRSQ)". The questionnaire was divided into two parts (1 & 2). Part 1 contains the bio-data of respondents; Part 2 contains three sections (A – C) in line with the three research questions guiding the study. Section A contains informational skills possessed by undergraduates; Section B contains operational skills possessed by undergraduates and section C contains strategic skills possessed by undergraduates of Library and Information Science. The three sections have a total of sixty-four items altogether presented on the 4-point rating scale to enable the respondents score the information retrieval skills they possessed. The respondents were required to indicate their opinion by checking (√) on the appropriate column of the option that best describes their level of agreement on the information retrieval skill possessed for the use of e-resources in universities in Niger Delta Region of Nigeria using the following rating scale: Strongly Agreed (SA) 4; Agreed (A) 3; Disagreed (D) 2 and Strongly Disagreed (SD)1.

The questionnaire was given to experts in the Department of Library and Information Science, Delta State University, Abraka for face and content validity. The reliability of the instrument was ascertained using the Pearson's Product Moment Correlation coefficient r. Overall reliability co-efficient

of r= 0.89 was obtained which was high enough to regard the instrument as reliable. Copies of the questionnaire were administered on hand-hand basis with the help of five research assistants. In analyzing the data collected from the instrument administered, mean and standard deviation were used to analyze the responses for research question while t-test was used to test the hypothesis formulated for the study. The Decision Rule is this: Any item with a mean rating that is equal to or greater than 2.5 was considered 'Agreed' while any item with a mean rating that is less than 2.5 was considered 'Disagreed'. The null hypothesis was tested using t-test statistics at 0.05 level of significance.

Presentation of Results

The results of the study were presented in tables according to the research questions while the test of hypothesis was presented in Table 4

Informational retrieval skills for e-resources possessed by the undergraduate students

Table 1: Respondents' Mean Rating on *information retrieval Skills for e-resources possessed by undergraduates of Library and Information Science in Universities in the Niger Delta Region, Nigeria.* (N=429).

S/N	Items on Informational retrieval Skills	Mean	S D	Remark
1	Definition of your need for research.	3.55	0.59	Agreed
2	Locating information in electronic resources.	3.51	0.63	Agreed
3	Selecting articles with ease.	3.31	0.70	Agreed
4	Summarizing materials in your own words.	3.41	0.66	Agreed
5	Understanding terminologies used in database.	3.10	0.75	Agreed
6	Use of reference sources to increase familiarity of topics.	3.32	0.72	Agreed
	Grand Mean	**3.05**		Agreed

The data in Table 1 revealed the informational retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria. The respondents were of the opinion that undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria possessed all the items in this cluster as all the items received mean ratings above 2.50. The grand mean of 3.05 further attest to the fact that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed informational retrieval skills for e-resources in universities in the Niger Delta Region. The standard deviation reveals that the respondents were not far apart in their response.

Table 2: Respondents' Mean Rating on Operational retrieval skills for e-resources possessed by Undergraduates of Library and Information Science in Universities in Niger Delta Region, Nigeria (N=429).

S/N	*Items on Operational retrieval skills*	Mean	SD	Remark

7	Use of mouse and keyboard.	3.54	0.67	Agreed
8	Copying information into your storage device such as flash drive or diskette.	3.40	0.74	Agreed
9	Retrieving information from external drive	3.39	0.79	Agreed
10	Scanning images.	3.16	0.87	Agreed
11	Access of online databases.	3.21	0.83	Agreed
12	Download files from online databases.	3.35	0.83	Agreed
13	Changing & locating a specific record in a database	2.82	0.76	Agreed
14	Adding and deleting a record in a database	3.20	0.73	Agreed
15	Finding and replacing data in a database	3.61	0.80	Agreed
	Grand Mean	**2.92**		Agreed

Table 2 reveals the operational retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria. The respondents agreed that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed all the items in this section received mean rating greater than 2.50. The grand mean of 3.84 is a further indication of respondent agreement to the items that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed operational retrieval skills for e-resources in universities in the Niger Delta Region of Nigeria. The standard deviation of the responses revealed that the respondents were homogenous in their responses.

Table 3: Respondents' Mean Ratings on strategic retrieval skills possessed by Undergraduates of Library and Information Science in Universities in the Niger Delta Region, Nigeria *(N=429).*

S/N	Items on Strategic Skills	Mean	S D	Remark
16	Use of Boolean operators (OR, AND, NOT).	2.87	2.87	Agreed
17	Combining two terms to retrieve information.	3.17	3.17	Agreed
18	Use of truncation search techniques to retrieve information.	2.87	2.87	Agreed
19	Use of title search for electronic catalogue (OPAC) search.	2.81	2.81	Agreed
20	Use of author search for electronic catalogue (OPAC) search.	2.82	2.82	Agreed
21	Shelf search for electronic catalogue (OPAC) search.	2.79	2.79	Agreed
22	Use of search engines such as Yahoo, Google, Alta Visa and Google scholar, etc.	3.65	3.65	Agreed
	Grand Mean	**2.98**		Agreed

Table 3 reveals strategic retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in the Niger Delta Region of Nigeria. The table reveals that undergraduates of Library and Information

Science in universities in Niger Delta Region of Nigeria possessed strategic retrieval skills for e-resources in universities in the Niger Delta region. All the items in this section received mean rating greater than 2.50. The grand mean of 2.98 further confirmed that the respondents agreed that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed strategic retrieval skills for e-resources in universities in the region. The range of standard deviation of their responses shows that the respondents were not far apart in their responses.

Testing of Hypothesis

***Table 4: The t-test a*nalysis of male and female undergraduates of Library and Information Science on information retrieval skills possessed for e-resources in universities in the Niger Delta Region of Nigeria**

Gender	N	X	S D	z-cal	α	Df	z-crit	Remark
Male	132	3.60	0.68	1.41	0.05	427	1.96	Retained
Female	297	3.82	0.74					

Table 4, shows the t-test analysis of responses of male and female respondents on information retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria with mean scores of 3.60 and 3.82 respectively. The z-calculated value of 1.41 is less than the z-tabulated value of 1.96 at 427 degree of freedom and 0.05 level of significance. Therefore, the null hypothesis is retained which implies that, there is no statistically significant difference between the mean rating of male and female undergraduates of Library and Information Science on information retrieval skills possessed for e-resources in universities in Niger Delta Region of Nigeria

Discussion of findings

The discussion is based on the three research questions raised above. The result of the analysis of Research Question 1 revealed that undergraduates of Library and Information Science possessed information retrieval skills for e-resources in universities in Niger Delta Region. This finding corroborated the report of Herring (2010) who stated that to effectively retrieve information, students need to value and implement information retrieval skills effectively as this will have an effect on how they find and use information, concept and ideas for their assignment. Also, Kari (2004) stated that information retrieval skill is necessary for students so as to equip them with knowledge to cope with information.

The data in Table 2 indicated the operational retrieval skills for e-resources possessed by undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria. The result indicated that undergraduates of Library

and Information Science in universities in Niger Delta Region of Nigeria possessed operational retrieval skills for e-resources in universities in Niger Delta Region of Nigeria. This lends support to Saunder's findings (2008) that information cannot be retrieved if one cannot operate the system. Also, Okello-Obura and Magara (2008) stated that computer skills of students should be improved for accessibility and utilization of electronic resources. Similarly, Ahmed and Cooke's (2008) study revealed that respondents had their computer skills improved to enhance their use of electronic information sources.

Furthermore, the result of the analysis of Research Question 3 confirmed that the respondents agreed that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed strategic retrieval skills for e-resources in universities in the region. This finding agreed with Chi and Law (2008) who opined that possession of search skills could contribute to more effective and comprehensive search.

Conclusion

Based on the findings of the study, it has been concluded that undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria possessed information retrieval skills for the use of e-resources in universities in the region. This implies that E-resources which are provided by university libraries for accurate and fast retrieval of information will be fully utilized by these undergraduates. Hence, the use of e-resources to retrieve information for research work or study due to adequate informational, operational and strategic retrieval skills possessed will not be a challenge to undergraduates of Library and Information Science in universities in Niger Delta Region of Nigeria as they possess the relevant skills to easily create, share and access data and files electronically for timely retrieval of information whenever the need arise.

Recommendations

Based on the findings of this study, discussions and conclusions drawn from it, the following recommendations are made:
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1. University management should organize constant awareness programmes such as, orientation, talks/seminars and workshops in the university libraries which should be tailored to informing undergraduates of all types of e-resources available in order fully utilize their skills for use e-resources in the library.
2. The university management and lecturers should continue to emphasize the need for undergraduates to acquire the skills for information retrieval from e-resources by guiding them during the search process. Emphasis should also be on different search strategies that can enhance appropriate retrieval of information for students' research.
3. Government should equip universities with the enabling

infrastructure such as adequate power supply, effective internet connectivity, experts in the repairs and installation of systems networks, low cost of access to information by consortium etc, which will encourage the students to maximize their skills for use of e-resources.

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