IMPACT OF OPERATIONAL AND FORMAL RETRIEVAL SKILLS ON THE USE OF E- RESOURCES BY UNDERGRADUATE STUDENTS IN TWO SELECTED UNIVERSITIES IN SOUTH-SOUTH REGION OF NIGERIA.

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Abstract
This study examined the influence of operational and formal retrieval skills on the use of e-resources by undergraduate students in two selected universities in the South-South region of Nigeria. One theory was adopted as the theoretical framework for the study. The descriptive survey design was adopted. A total of 13,124 students constituted the population with a sample size of 377. A questionnaire was used as an instrument for data collection. Data collected were analyzed using Mean Score to answer the research questions while a related t-test was used in testing the hypotheses at 0.05 level of significance. The findings indicated that operational retrieval skills and formal retrieval skills have influence on the use of e-resources. The study concluded that operational and formal retrieval skills are very necessary for undergraduates to acquire to optimally use the e-resources. Consequent to the findings of the study, recommendations were offered.

Introduction
Information retrieval is the exploitation and extraction of information and other contents of document from different information sources (Echem & Udo-Anyanwu, 2018). Information retrieval skills (IRS) are the skills to seek and retrieve relevant information to the subject from different sources. Ozoemena (2019) postulated that students must acquire and practice the skills necessary to retrieve information from e-resources in order to be fully equipped to cope in the information intensive world. These skills include but not limited to operational and formal retrieval skills.

Operational retrieval skills are the ability to use the computer and other network connections competently. They are the first type of medium-related retrieval skills and the basic skills for using computer technology. Operational retrieval skills are applied in operational toolbars, buttons and menus. According to van Deursen & van Dijk (2014), the operational skills is also referred to as "button knowledge" because the skills include the knowledge and ability to operate computer hardware, software applications, networks and elements of digital technology.

Formal retrieval skills are the skills that allow the use of hypermedia. Formal skills, as viewed by van Deursen and van Dijk (2010), are the ability to understand and handle the formal characteristics of digital technology. Hypermedia structure allows users to choose their own non-linear path. These structures require users to be able to navigate and orient themselves when using the Internet. Eke-Okpala *et al.* (2014) asserted that using the Internet constitutes action, interaction and transaction. This implies that using the e-resources entails the user's full involvement in the activity so as to retrieve accurate and precise information that will meet his or her information need. Navigation is one of the valuable skills in the 21st century students. Navigation is necessary in order to use the vast and diverse number of online websites,

platforms and menu layouts offered. Formal skills enable users to retrieve information from e-resources that are accurate, adequate, current and up-to-date.

E-resources (Electronic resources) are the bedrock for the provision of accurate and timely information for better educational outcome. They aid in the retrieval of huge amount of information for teaching, learning and research, and are fast and can be accessed anytime and any day. E-resources supply all the information that a library provides through computer network. These include e-books, e-journals, bibliographic databases and other sources that are accessed on electronic device (Fynman *et al*., 2014).

The relevance of operational and formal retrieval skills on the use of e-resources by undergraduate students cannot be over-emphasized as they are pivotal on how the available e-resources are being used by the students. In the view of Omosekejimi *et al*. (2015), for e-resources to be used effectively, not only are computers and Internet connections necessary, creating a usable interface is indispensable as a computer database interface aids access and retrieval of information.

Statement of the Problem

E-resources can be seen as the most recent development in information technology. They have become more relevant for the academic community in accessing current information at the right time and in the right form. E-resources enable undergraduate students to have access to first-hand information that is characterized by being timely, current and easy to access. However, studies such as those of Adeniran (2013); Ugwu and Orsu (2017) and Urhiewhu (2015) have shown that though e-resources are available in universities in Nigeria but are under-used by undergraduate students who constitute a significant percentage of the university community despite the opportunities these resources hold for effective learning and research. Many undergraduate students are yet to maximize the opportunities provided by these initiatives due to inadequate facilities or lack of maintenance culture and even where these facilities are in place, the undergraduate students are not making effective use of the valuable e-resources owing to lack of skills required to navigate the modern technology and explore the content. The need to achieve greater use of the available e-resources therefore makes it imperative to ascertain whether operational retrieval skills and formal retrieval skills have influence on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria.

Purpose of the Study

i. To determine the influence of operational retrieval skills on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria

ii. To ascertain the influence of formal retrieval skills on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria.

Research Questions

i, What is the influence of operational retrieval skills on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria?

ii. What is the influence of formal retrieval skills on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria?

Research Hypotheses

i. There is no significant influence of operational retrieval skills on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria

ii. There is no significant influence of formal retrieval skills on the use of e-resources by undergraduate students in the two selected universities in South-South region of Nigeria

Theoretical Framework

Information Utility Theory (Todd,1994)

Information Utility Theory is a fundamental concept in the discussion of information seeking and user behaviour. This theory was developed by Ross J. Todd in 1994. The theory is all about information products and their utilization. It states that a user of information products will manifest, keep on demanding and using information resources provided he or she derives maximum satisfaction from their use, or that the source being used continues to meet his or her information needs. Todd conceptualized a theoretical framework known as the information utility theory for furthering the understanding for the cognition aspect of information utilisation. This theory was initially applied in collection development as it provides acquisition librarians the guide to purchase more of the titles which are heavily utilized while discarding those that are no longer useful to users.

This theory is relevant to this study in the sense that it provides a framework for understanding users' attitude towards the use of e-resources. Undergraduate students will no doubt continue to use the information resources available to them as long as these resources meet their information needs.

Review of Related Literature

Operational Retrieval Skills

Operational retrieval skills are the basic skills for using computer technology. It is applied in operating tool bars, buttons and menus. Buttons or other usual signs can cause readers to focus on cues often unrelated to the alphabetical writing system of language featured in print media (van Deursen & van Dijk, 2014). In order to operate computers, students need to learn to understand how the information systems are organized by learning the basic skills such as use of keyboards, mouse disk management. Without the skills to use these features effectively, one cannot open a website in an internet browser. Operational skills also include using different type of user input options. Undergraduate students must be familiar with online forms offering various types of input fields to fill them. They should also be acquainted with file management or the opening, saving and retrieving of various file formats that can be found online. Operational skills assist users on how to make use of online search engines to search, filter and retrieve relevant information that will satisfy one's information needs (Iheanacho, 2021).

Formal Retrieval Skills

Formal skills strongly relate to the characteristics of digital technology (van Deursen & van Dijk, 2010). Formal skills are the ability to understand and handle the formal characteristics of a computer and a network such as file structure and hyperlinks. Most traditional media are linear and gives the user little control of information; while traditional media enable active mental processing, digital media requires action, interaction and transaction (Eke-Okpala *et al*., 2014). These structures require users to be able to navigate and orient themselves when using the Internet. Navigation is necessary to use the vast and diverse number of online websites, platforms and menu layouts offered. These layouts differ in text, content, backgrounds, paths, frames, links, buttons and pop-ups. Users can move not only forward but also backward and to unknown locations referred to as cross-reference. Without a sense of location, distance and necessary direction, it is not surprising that users often have a strong sense of disorientation (Ilogho & Nkiko, 2014). Users might become disoriented and lost in the non-linear structure of the Internet. Loss of a sense of orientation can involve not knowing where one is, where next to go, how to get back to a previous site, what path one has followed and where to look for information. Users often get lost even with sufficient content domain expertise (Tella *et al*., 2017). Undergraduate students need to possess these skills in order to avoid labyrinth of lanes. This skill will also enable users to identify the easy and quick links to use during search processes which will allow them to retrieve their needed information without much struggle.

E-Resources

Dhanavandan and Tamizhchelva (2012) defined e-resources as resources which require computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journal, image collections, other multi-media products and numerical, graphical; or time base, as a commercially available title that has been published with an aim to being marketed. These may be delivered on CD Rom, on tape, via Internet and so on. The use of e-resources by undergraduate students is growing rapidly as e-resources provide a vast amount of information on a high speed. Onwueme and Lulu-Pokubo (2017) postulated that information users often use the online referred journals and the web which provides information that is up to the minute, international in scope and sometimes not available elsewhere. The popular use of these resources is because they are seen as easier to access and research and provide the necessary information needed.

The use of e-resources is necessary in the academic environment. They serve as motivating factors to users as they provide them with opportunities to acquire, share, transfer and disseminate information on any area of interest (Iheanacho, 2021). E-resources are important to retrieve current information. Undergraduate students make use of e-resources to retrieve information for academic purposes such as class assignments, project work, seminar presentations and conferences. Egberongbe (2011) asserted that a large number of students use e-resources for research, study and for keeping abreast with new developments in their area of interest. Through the use of e-resources, undergraduate students are able to gain in-depth background knowledge of the research topics which assist them to remain focused.

Methodology

This study adopted the descriptive survey research design. The population of the study comprised 13,124 undergraduate students who registered in the libraries of the institutions under study during the 2019/2020 academic session. The sample size for the study was 377 respondents. This sample size was arrived at using the Krejcie and Morgan (1970) sample size table. Multi-stage sampling technique was adopted in selecting the respondents. There were

three stages involved in the sampling. First, two faculties were purposively selected from the two institutions under study (Cross River State University and Akwa Ibom State University) respectively. Secondly, two departments each were selected from each of the Faculties using the simple random sampling technique by balloting. Different departments were selected to allow for objectivity. Thirdly, the fourth year students were purposively selected. The choice for the 400 level students was on the basis that due to their programme of study which is over a period of four years, they may have used e-resources in writing their seminar papers and other research activities. Self-structured questionnaire titled "Operational and Formal Retrieval Skills and Use of E-resources" (OFSERQ) was used as instrument for data collection. The instrument was administered on the respondents and data obtained were analyzed using Mean and Standard Deviation to answer the research questions while related t-test was used in testing the hypotheses at 0.05 level of significance. Data was analyzed using the SPSS 2.0 package.

Results and Discussion

Research Question 1: What is the influence of operational retrieval skills on the use of e-resources by undergraduate students in Nigeria?

Table 1: Mean Scores on Operational Retrieval Skills

S/N	Operational Retrieval Skills	SA	A	D	SD	Mean
	Operational retrieval skills allow me to:					
1.	Use the mouse and keyboard	204 (54.1)	115 (30.5)	32 (8.5)	26 (6.9)	4.28
2.	Scan images	316 (83.8)	41 (10.8)	14 (8.7)	06 (0.6)	2.96
3.	Easily bookmark website	92 (24.4)	110 (29.2)	164 (43.5)	11 (0.9)	2.81
4.	Access online databases	114 (30.2)	102 (27.1)	98 (26.0)	63 16.7)	3.59
5.	Retrieve information from flash drive	221 (58.6)	82 (21.8)	56 (14.9)	18 (4.8)	3.24
	Cluster Mean					**3.38**

The result on Table 1 indicated that most of the respondents 319 (80.6%) agreed that operational retrieval skills allow them to use the mouse and keyboards, 357 (94.6%) scan images, 202 (53.6%) easily bookmark website, 216 (57.3) access online databases, and 303 (80.4) retrieve information from flash drive.

Research Question 2: What is the influence of formal retrieval skills on the use of e-resources by undergraduate student in Nigeria?

Table 2: Mean Scores on Formal Retrieval Skills

S/N	**Formal Retrieval Skills**	**SA**	**A**	**D**	**SD**	**Mean**
	Acquisition of formal retrieval skills enable me to:					
1.	Use hyperlinks embedded in different formats such as text links, image links or menu links	10 (2.7)	312 (82.8)	03 (0.8)	52 (13.8)	3.10
2.	Become disoriented when navigating between websites	48 (12.7)	215 (57.0)	94 (24.9)	20 (5.3)	3.23
3.	Know where to click to go to a different website	14 (3.7)	83 (22.0)	268 (71.0)	12 (3.1)	2.95
4.	Move to unknown locations in the Internet	87 (23.0)	214 (56.7)	57 (15.1)	19 (5.0)	3.31
5.	Navigate forward and backward on a non-linear path	101 (26.7)	198 (52.5)	40 (10.6)	39 (10.3)	3.08
	Cluster Mean					**3.13**

The result on Table 2 indicated that most of the respondents 312 (80.8%) agreed that formal retrieval skills enable them to use hyperlinks embedded in different formats such as text link,

image links and menu links, become disoriented when navigating between websites 215 (52.0%), move to unknown locations in the Internet 214(56.7%), and navigate forward and backward on a non-linear path 198(52.5%), while majority of the respondents disagreed that formal retrieval skills enable them to know where to click to go to a different website 268(71.0%).

Hypothesis 1: There is no significant influence of operational retrieval skills on the use of e-resources by undergraduate students in Nigeria

Table 3: Related t-test analysis of the influence of operational retrieval skills on the use of e-resources

	Variables	Mean	N	Standard	t-cal	Sig.	Decision
Pair 1	Operational retrieval skills	25.24	361	3.41	21.14	0.00	Significant
	Use of e-resources	29.79	361	5.10			

The result on Table 3 showed that the calculated t- value for the influence of operational retrieval skills on the use of e-resources by undergraduate students at 361 degree of freedom was 21.14, while the corresponding calculated level of significant was 0.00 alpha. With the result, the null hypothesis was rejected. This implies that there is a significant influence of operational retrieval skills on the use of e-resources.

Hypothesis 2: There is no significant influence of formal retrieval skills on the use of e-resources by undergraduate students in Nigeria

Table 4: Related t-test analysis of the influence of formal retrieval skills on the use of e-resources

	Variables	Mean	N	Standard	t-cal	Sig.	Decision
Pair 1	Formal retrieval skills	20.34	361	3.40	34.58	0.00	Significant
	Use of e-resources	29.79	361	5.10			

The result on Table 4 showed that the calculated t-value for the influence of formal retrieval skills on the use e-resources by under graduate students at 371 degree of freedom was 34.58, while the corresponding calculated level of significance is 0.00 alpha. With the result, the null hypothesis was rejected. This implies that there is significant influence of formal retrieval skills on the use of e-resources.

Discussion of Findings

Findings from the study showed that operational retrieval skills have significant influence on the use of e-resources. The respondents' agreed to a large extent that operational retrieval skills help them in the retrieval of relevant information to satisfy their information needs as information cannot be retrieved if one cannot operate the computer. Ekenna (2013) in her findings established that students should not just learn to operate the computer but should also understand how the information system works as this would enable them to retrieve information from e-resources efficiently and effortlessly.

In the same vein, findings from the study also showed a is significant influence of formal retrieval skills on the use of e-resources. The result showed that the undergraduate students do not have excellent formal retrieval skills. This implies that the undergraduate student might not know how and where to search to be able to retrieve accurate information to satisfy their information needs. This discovery could suggest that the undergraduate students may not have been properly guided in learning the skills. Tenopir (2003) therefore advised that it is important to educate the undergraduate students on the best resources that they could use when their searches fail to produce the desired result.

Conclusion and Recommendation

In order to use the growing range of e-resources available in the Nigerian universities, the undergraduate students must acquire and practice the skills necessary to exploit the e-resources. These skills include knowledge of the structure of database and an understanding of the way in which instructions is linked with one another. The arguments for undergraduate students using e-resources are compelling. However, knowledge of computer and retrieval techniques are needed to search these resources effectively. The ability to explore the digital environment is requirement for academic success today. Therefore, undergraduate students are increasingly expected to maximally use the available e-resources effectively and efficiently.

It is therefore recommended that the undergraduate students should exhibit positive attitude in acquiring the skills necessary to retrieve information from e-resources, and the librarians should be eager to assist and guide the undergraduate students on the use of the computer in order to access the information therein.

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