

# INTERNET USE STRATEGIES FOR EFFECTIVE RESEARCH AMONG POSTGRADUATE STUDENTS IN UNIVERSITIES IN BAYELSA STATE

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## Abstract

The study investigated internet use strategies for effective research among postgraduate students in Universities in Bayelsa state. Four (4) research questions guided the study. The study adopted descriptive survey research design. The population of the study was 1,710 postgraduate students. The sample for this study was 300 postgraduate students drawn using purposive and simple random sampling techniques. Questionnaire was used in collecting data. Data were analyzed using percentages, mean and standard deviation on the Statistical Package for Social Sciences (SPSS). The findings showed that internet resources are available in the three universities in Bayelsa state for effective research. It was also revealed that extent of use of internet resources by postgraduate students for effective research is high. Again, findings showed that strategies employed by postgraduate students in using the internet for their research include; use of search engines, engaging in key word searching, sending e-mails among others. It was further revealed that basic internet skills possessed by postgraduate students in the use of internet resources for effective research include; starting existing program, evaluating what one found, surfing (browsing), creating folders, printing, copying etc. Based on the findings, the study recommended among others that the government and school administrators should provide internet resources and steady power supply in universities. Also, postgraduate students should be encouraged to undertake computer or ICT literacy programmes to equip themselves with needed computer literacy skills.

**Key Words:** Universities, Postgraduate Students, Effective Research, Internet Use Strategies

## **Introduction**

Research refers to as systematic enquiry carried out on any topical issue or subject in other to discover new knowledge. According to [study.com \(n.d\)](#), research means careful and detailed study into a specific problem, concern, or issue using the scientific method. Effective research involves vigorous collation and analysis of information to improve the human understanding of phenomena under study ([Bahadori et al., 2015](#)). Effective research involves a systematic approach which ought to be adhering to in other to arrive at the desired result. This approach is generally regarded as scientific in nature because it involves the scientific processes of carrying out investigation into any phenomena under study in other to arrive at solutions to solve societal problems. Thus, postgraduate students in universities are expected to carry out an effective research work before a degree is awarded to them. This implies that in order to achieve or have an effective research work, there must be a researcher who will carry out such research.

Postgraduate students are graduate students pursuing a second (Masters) or third (PhD) degree in the university system. Postgraduate students are often regarded as research students because a larger percentage of their academic work required quality research. According to Katimani (2010), a postgraduate student is a person who has already earned four years undergraduate degree, commonly called a bachelor degree, and then went further to pursue postgraduate education.

With the advent of Information and Communication Technology, the Internet has led to increase in research report output in all human endeavours. Research now seen interesting and fast as almost all information needed for research can be retrieved from the Internet. The Internet is a global network of linked computers that enables people to share and exchange information (Vladimir, 2012). It is a network of linked computers located at different points all over the

world that provide easy communication between persons and organizations no matter where they are located. Internet as an essential tool in research and academic generally, provides students and other researchers 'access to global sources of information. It also avails researchers the platform and ability to discuss and share experience with colleagues (maharana, Shethi, and Behera, 2010).

Postgraduate students' use of internet resources most often depends on how universities and other allied research institutes are meeting their research needs by making available relevant titles and collections on their websites and related databases for easy access and retrieval and also creating the needed awareness on how best to harness these resources and services. As people who carry out research, the Postgraduate students need information in varying degrees to satisfy their information needs. The use of library-based websites has made it possible for people to access multifarious information sources scattered in every part of the world with little or no delay and less stress. Basic Internet skills refers to the foundation and ability to acquire new knowledge on the Internet. In order to exploit Internet resources maximally, one must possess the skill of starting existing programme, use of search engines, surfing or browsing, evaluating found resource, unzipping of files, copying and printing.

### **Statement of the Problem**

Access to internet resources and utilization is a critical factor for postgraduate students to carry out effective research. To make maximum use of available internet resources for effective and quality research, postgraduate students must have the needed skills required on how to navigate the net in order to obtain information resources. The inability of postgraduate students to use the available Internet resources and the difficulties postgraduate students in Nigerian

universities and Bayelsa State in particular go through when writing research project as affirmed by researchers is worrisome and if not checked, the consequences in the future may be inconceivable. The problems if not adequately addressed, will no doubt pose a grave danger to continuous research by postgraduate students which will in turn affects the overall educational, socio-economic and industrial development of Bayelsa State in particular.

Several studies exist on postgraduate students' use of internet for research in universities in Nigeria and other parts of the world but no study have been carried out on internet use strategies for effective research among postgraduate students in universities in Bayelsa State, Nigeria. This is the perceived gap in knowledge where findings of this study hope to cover.

### **Research Questions**

The following questions were formulated to guide the study;

1. What is the extent of use of internet resources by post graduate students for effective research?
2. What are the strategies employed by the postgraduate students in using the internet for their research?
3. What basic internet skills do postgraduate students possessed in the use of internet resources for effective research?

### **Literature Review**

The goal of postgraduate study in any university is for further development of graduate students with the spirit of enquiring knowledge through training and research in an atmosphere of intellectual independence and individual creativity with a strong sense of group cooperation (Kumbar, and Lohar, (2005). Although most postgraduate students own a laptop, iPad or smartphone which exposes them to the use of technology, a good number of them still face the

problem of employing skills required for effective and quality research. Okiki, and Asiru (2020) observed that ability of postgraduate students using the internet resources, students lack skill in locating and evaluating information, which impedes their effective use.

Mole, (2019) view research as the process of searching and searching again until solution to a problem is found. We conduct research in order to solve the problems and come with tangible and over lasting solutions that can contribute to knowledge in one way or the other. Effectiveness in research is the ability to bring about an effect in research (Burches & Burches, 2020). It is the level to which some action is successfully brings about a desired outcome. It can also be viewed as the degree to which an objective(s) is achieved and the level whereby targeted problems are solved. Effective research entails the extent to which expected outcomes, goals or objectives of a research work are achieved as a result of activities or initiatives intended to achieve the desired or result or effect. Effective research can be viewed as an in-depth search for knowledge or any systematic investigation to establish facts. It can be scientific, artistic and historical. Effective research is a process of finding out a solution or answer to problems. The systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge (Kham and Bhatti, 2012). Eboh (2019) noted that effective research is a systematic process of inquiry by which humankind increases knowledge of how things are, why they are the way they are and how these things can be improved upon. This implies that effective research should not just be a careful activity but should be systematically planned. Effective research is the conduct and synthesis of research with benefits that are relevant to situations.

The use and application of internet resources in academic activities by postgraduate students especially in carrying out research are the main ingredients that have become a necessity

in most academic institutions of learning today. According to Shuling (2017), internet/electronic information has steadily become a key resource in every university environment. Internet resources no doubt enhances effective research activities. The internet, also known as the net is a system of computer networks worldwide, whereby users with permission, can from one computer obtain information from another computer, or may communicate directly with other users at other computers. It is a global wide area network that connects computers all over the world, which comprises of different high bandwidth data lines that made up the internet (Ojedokun, 2011).

### Methodology

The study adopted descriptive survey as research design; the population of the study was 1,710 Masters and PhD postgraduate students in universities in Bayelsa State; the sample size for this study was 300 respondents who were the postgraduate students (Masters and PhD) to be drawn from the three universities in the Bayelsa State. The three universities were selected using purposive sampling techniques; questionnaire was the instrument used for data collection; The questionnaire was subjected to face validation; the questionnaire was administered to the respondents in the selected institutions with the aid of five trained research assistants; The data was analyzed based on the research questions and descriptive statistics was used in answering the research questions using Mean and Standard Deviation.

### Results

**Research Question One:** What is the extent of use of internet resources by postgraduate students for effective research?

**Table 1: Mean and standard deviation of respondents on the extent of use of internet resources by postgraduate students for effective research**

S/N	Item Statement	Institution	Overall	R	D
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		NDU		FUO		UA		Mean	SD	Rank	HE
		Mean	SD	Mean	SD	Mean	SD				
1	Virtual library	3.00	.88	3.50	.55	3.00	.80	3.03	.95	14 <sup>th</sup>	HE
2	Electronic Mail (E-mail)	3.24	.97	3.77	.66	3.13	.52	3.32	.87	1 <sup>st</sup>	HE
3	World Wide Web (www)	3.00	.58	3.33	.82	3.00	.63	3.02	.97	16 <sup>th</sup>	HE
4	Electronic Journals (E-Journals)	2.71	.88	3.50	.55	3.50	.55	3.06	.92	13 <sup>th</sup>	HE
5	Electronic Books (E-Books)	3.14	.78	3.33	.73	2.83	.75	3.09	.94	9 <sup>th</sup>	HE
6	Online data analysis software	3.29	.81	3.50	.55	3.50	.55	3.08	.88	10 <sup>th</sup>	HE
7	University Websites	3.27	.98	3.35	.91	3.33	.82	3.21	.92	4 <sup>th</sup>	HE
8	e-databases	2.90	.82	3.13	.82	3.00	.89	2.74	.91	21 <sup>st</sup>	HE
9	CD-ROMS	2.86	.81	3.33	.72	2.67	.81	3.03	.94	15 <sup>th</sup>	HE
10	Video conferencing	3.10	.70	3.03	.52	2.93	.98	3.25	.93	2 <sup>nd</sup>	HE
11	Archives	3.23	.98	3.53	.82	2.83	.63	3.00	.96	17 <sup>th</sup>	HE
12	<a href="#">Computing Research Repository</a>	3.57	.79	3.00	1.10	3.17	.83	3.11	.88	7 <sup>th</sup>	HE
13	<a href="#">Directory of Open Access Journals (DOAJ)</a>	2.71	.88	3.67	.92	3.67	.52	3.15	.98	5 <sup>th</sup>	HE
14	Online Video (like YouTube)	3.14	.69	3.33	.84	2.67	.83	3.10	.84	8 <sup>th</sup>	HE
15	Local Area Network (LAN)	2.86	.38	2.50	.55	2.83	.75	3.23	.88	3 <sup>rd</sup>	HE
16	Wide Area Network (WAN)	3.43	.98	3.00	.89	3.50	.84	2.82	.93	20 <sup>th</sup>	HE
17	Institutional Repository (IR)	3.00	1.29	3.17	1.17	3.00	1.26	3.12	.80	6 <sup>th</sup>	HE
18	Full text Databases	3.14	.90	2.83	.98	3.17	.41	2.98	.95	18 <sup>th</sup>	HE
19	Indexing and Abstracting Databases	3.29	.76	3.33	.52	2.67	1.03	3.08	.97	11 <sup>th</sup>	HE
20	Reference Databases	3.00	.85	3.17	.75	2.83	.57	3.08	.86	12 <sup>th</sup>	HE
21	Online Public Access Catalogues (OPACs)	3.00	.82	2.50	.55	3.00	.70	2.94	.89	19 <sup>th</sup>	HE
Cluster Mean		<b>3.10</b>	<b>.93</b>	<b>3.24</b>	<b>.72</b>	<b>3.06</b>	<b>.89</b>	<b>3.13</b>	<b>.86</b>		HE

Keys: VHE = Very High Extent, HE = High Extent, LE = Little Extent, NA = Not at All ; NDU=Niger Delta University, Amassoma; FUO =Federal University, Otueke; ; UA= University of Africa, Toru-Orua , D=Decision, R=Rank

Results in Table 1 revealed the extent of use of internet resources by postgraduate students for effective research. The Table showed that items 1-21 as well as the cluster mean had their mean values ranged from 2.74-3.32. These values were within the real limit of 2.50-3.49;

indicating that the extent of use of internet resources by postgraduate students for effective research is high. The standard deviations of the 21 items ranged from .80-.98; indicating that the respondents were homogenous in their response.

### Research Question Two

What are the strategies employed by postgraduate students in using the internet for their research?

**Table 2: Mean and standard deviation of respondents on the strategies employed by postgraduate students in using the internet for their research**

S/N	Item Statement	Name of school						Overall		R	D
		NDU		FUO		UA		Mean	SD		
		Mean	SD	Mean	SD	Mean	SD				
1	Use of Boolean Operators (AND, NOT, OR) to narrow down my search results	2.61	.92	2.87	.83	2.58	.67	2.69	.82	6 <sup>th</sup>	E
2	Use of search engines (e.g. Google, Ask. Com, Alta Vista, etc.) for my research queries	2.61	.85	3.07	.88	2.75	.62	2.80	.81	4 <sup>th</sup>	E
3	Phrase searching e.g. 'Information retrieval', 'Global warming'	2.89	.96	2.87	1.06	2.92	1.00	2.89	.98	3 <sup>rd</sup>	E
4	Sourcing information from university libraries' databases	3.00	1.24	3.07	.96	2.58	.67	2.91	.92	2 <sup>nd</sup>	E
5	Sending e-mails to researcher to send research materials	2.44	1.04	3.20	.56	2.75	.62	2.78	.85	5 <sup>th</sup>	E
6	Engaging in key word searching e.g. information technology	2.94	.94	3.27	.80	3.08	.90	3.09	.87	1 <sup>st</sup>	E
Cluster Mean		<b>2.75</b>	<b>.99</b>	<b>3.06</b>	<b>.85</b>	<b>2.78</b>	<b>.75</b>	<b>2.86</b>	<b>.89</b>		<b>E</b>

**Keys:** HE= Highly Employed, E = Employed, LE = Less Employed and NE = Not Employed; NDU=Niger Delta University, Amassoma; FUO =Federal University, Otueke; ; UA= University of Africa, Toru-Orua', **D=Decision, R=Rank**

Result in Table 2 revealed the strategies employed by postgraduate students in using the internet for their research. The result shows that all the items (1-6) are the strategies employed by postgraduate students in using the internet for their research. The decision for regarding all the items as strategies employed by postgraduate students in using the internet for their research was based on the fact that all the items had a minimum mean value of 2.50 and above set for decision



rule. The Table also revealed that the standard deviations of the 6 items ranged from .81-.92; indicating that the respondents were homogenous in their response.

### Research Question Three

What are the basic internet skills possessed by undergraduate students in the use of internet resources for effective research?

**Table 3: Mean and standard deviation of respondents on the basic internet skills possessed by undergraduate students in the use of internet resources for effective research**

S/N	Item Statement	School						Overall		R	D
		NDU		FUO		UA		Mean	SD		
		Mean	SD	Mean	SD	Mean	SD				
1	Starting existing program	3.00	.75	3.26	.82	3.32	.57	3.19	.74	4 <sup>th</sup>	P
2	Use of search engines	3.31	.88	3.39	.92	2.86	.83	3.22	.90	1 <sup>st</sup>	P
3	Surfing (Browsing)	3.15	1.05	3.00	1.15	2.32	1.04	2.86	.83	8 <sup>th</sup>	P
4	Evaluating what one found	3.19	1.06	3.29	.90	3.09	1.02	3.20	.98	2 <sup>nd</sup>	P
5	Unzipping of files	3.27	.78	3.29	.69	3.00	.76	3.20	.74	3 <sup>rd</sup>	P
6	Copying	3.23	.76	3.26	.93	2.82	.66	3.13	.82	5 <sup>th</sup>	P
7	Printing	3.04	.92	3.39	.76	2.86	.83	3.13	.85	6 <sup>th</sup>	P
8	Creating folders	3.42	.64	3.00	.86	2.91	1.06	3.11	.88	7 <sup>th</sup>	P
Cluster Mean		<b>3.20</b>	<b>.85</b>	<b>3.23</b>	<b>.88</b>	<b>2.90</b>	<b>.85</b>	<b>3.13</b>	<b>.88</b>		<b>P</b>

**Keys:** NDU=Niger Delta University, Amassoma; FUO =Federal University, Otuoke; ; UA= University of Africa, Toru-Orua, , D=Decision, R=Rank

Result in Table 3 revealed the basic internet skills possessed by undergraduate students in the use of internet resources for effective research. From the Table, it shows that all the items (1-8) are the basic internet skills possessed by undergraduate students in the use of internet resources for effective research. The decision for regarding all the items as basic internet skills possessed by undergraduate students in the use of internet resources for effective research was

based on the fact that all the items had a minimum mean value of 2.50 and above set for decision rule. The Table also revealed that the standard deviations of the 8 items ranged from .74-.98; indicating that the respondents were homogenous in their response.

### **Recommendations**

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

1. Government and school administrators should provide adequate internet resources in universities.
2. Regular power supply and telecommunication networks should be provided in universities.
3. Course on ICT should be made compulsory for postgraduate students
4. Postgraduate students should undertake computer literacy programmes to equip themselves with needed computer literacy skills.

### **Conclusion**

Based on findings of the study, it was concluded that internet resources were available in the three universities in Bayelsa state for effective research. It was also concluded that the extent of use of internet resources by postgraduate students for effective research is high. More so, it was concluded that strategies employed by postgraduate students in using the internet for their research include; use of search engines, engaging in key word searching, sending e-mails to researcher to send research material and phrase searching among others. It was further concluded that basic internet skills possessed by undergraduate students in the use of internet resources for effective research include; starting existing program, evaluating what one found, surfing (browsing), creating folders, printing, copying, unzipping of files and use of search engines

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