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THE UTILIZATION OF INTERNET RESOURCES FOR LEARNING AND RESEARCH AMONG STUDENTS OF TARABA STATE UNIVERSITY, JALINGO, NIGERIA

Oberiri Destiny Apuke
Taraba State University, Jalingo, Nigeria, apukedestiny@gmail.com

Elif Asude Tunca
European University of Lefke (Cyprus)

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BY

OBERIRI DESTINY APUKE

School of Communication, Universiti Sains Malaysia, 11800 USM, Pulau Pinang, Malaysia

Department of Mass Communication, Taraba State University, Jalingo, Nigeria

Email: apukedestiny@gmail.com

ELIF ASUDE TUNCA

European University of Lefke, Faculty of Communication Sciences, Department of New Media and Journalism,

Lefke, Northern Cyprus, TR-10 Mersin, Turkey, etunca@eul.edu.tr

ABSTRACT

The primary purpose of this work is to examine the utilization of internet resources for learning and research among students of Taraba state university. This study, which is anchored on the uses and gratification adopted a survey among 350 students. The students perceived that the lack of digital readiness among their staff and institution, the absence of electronic library for easy accessibility to journals from the scientific database, and inefficient cybercafe and internet facility within their university settings were the main issues discouraging the utilization of the internet within their institutions. Yet, they still strive to find ways through self-organization, resilience and resourcefulness to make use of the internet to facilitate their studies. Most of them stated that they use their smartphone/handsets to access the internet through subscription from other internet providers. Google and Google Scholar was found to be the most preferred search engine. The students affirmed that the use of internet enabled them to perform research ahead of time, tackle multiple homework, widens the scope of reading and learning, promotes self-learning, encourages and enhances peer learning as well as ameliorates student's examination preparation. It was proposed that tertiary institutions in Nigeria most especially TSU should provide an electronic library where the students can easily access scientific journals from databases such as Elsevier, Springer, Taylor and Francis, Wiley, and Emerald. This will lessen the reliance on Google and Google Scholar as well as provide the means to explore other related scientific papers which will improve their academic research and learning.

Keywords: Electronic library, Internet access, internet facilities, learning and research, Nigerian students, Taraba state university (TSU).

1.1 Background to The Study

The information and communication technology (ICT) are fast altering the ways people communicate, teach and learn, and in the last decades, the development of internet usage has been shown to transform the lives of million people around the world. According to Chou (2001), the internet, as an essential component of peoples' daily life has supported in improving the manner of seeking information, conducting research, and carrying on business transactions.

Specifically, for students and teachers, earlier research has reported that the internet is becoming an essential part of the educational system (Rüzgar, 2005). It has been regarded as an excellent study tool which has pertinent information that is easily accessible, and increasingly utilised by tertiary education students (Bond, fever, & Pitt, 2006). This supports the recent research assertion which submits that the use of internet has become a fundamental part of general students' life (Deniz & Geyik, 2015). Emmanuel (2013) described the internet as one of the most multipurpose technologies because it contains variety of information that could be retrieved in split seconds. Moreover, there is no facet of human endeavour that has not been influenced by the internet revolution. The educational context which is the centre of knowledge and information are equally shown to be using this 21st-century technology.

Since the 1990's it has become a generally used device for communicating, making research, entertaining, educating and advertising (Hinson & Amidu, 2006). Ceyhan (2011) noted that the internet offers a range of prospects that enables, expands, improves and change human life. This indicates that it permits limitless circulation of information and provides a means for collaboration and communication amongst individual and computers regardless of the geographical limits. Interestingly, it has been identified as one of the most noteworthy technological advancement of the 20th century, which has created an impact on academic research and development (Sanni et al., 2009).

There is evidence to indicate that the antiquity of internet has long been associated with tertiary education because, over the years, the internet has been shown to be a pertinent tool for facilitating academic activities. Hence, its integration into the university settings has been revealed to increase the access to information and communication through the provision of e-publications (Aminu, 2014). These integrations of the internet for teaching and academic purposes have risen rapidly, and many tertiary institutions are now applying these technologies to their current instructional frameworks. It is now typical to see web pages that contain course notes and other relevant materials which complements the courses taught in the conventional classroom (Bonk, 2002). Rai (2014) observed that the internet has become part of students and a tool used beyond sharing views and contact between them, but extend to retrieval of information pertaining to studies and projects.

According to Kumar & Kaur (2006), the internet plays an important part in instructing, research and learning in the higher educational settings. It has brought about an easier form of knowledge creation and dissemination. Indeed, the internet has been reported to be an efficient instrument for retrieving and distributing of information and thus claimed to have an impact on students (Bruning, Schraw, Norby, & Ronning, 2004). Strengthening this view, Asan and Koca (2006) maintained that the internet is now embraced by students because it lessens the

gap between the production and use of information as well as encourages multidisciplinary investigation. Salih (2003) in his study concludes that the internet has brought about a positive change among students as it relates to teaching and learning. It has changed the form of retrieving and consuming of information for the sake of research as well as present a new idea in the process of learning, in turn, re-forming the parts played by the contributors of the educational process (Quadri & Abomoge, 2013).

In line with this view, evidence has also confirmed that the advancements in information technology and the growth of the Internet have influenced student approaches toward research and learning in this present-day advanced educational milieu. Some studies conclude that the internet is now largely employed in the university settings, and this has made students to have more opportunities to study (Yang & Lin, 2010; Gialamas, Nikolopoulou, & Koutromanos, 2013). Indeed, the use of the internet has been revealed to improve students' research and learning (Roudbaraki & Esfidvajani, 2011). It enables easy access to numerous resources and information sharing, which could be used in any location and time (Sahin et al., 2010). Regardless of terrestrial distance, the internet has been used to bridge communication and connections (Kehrwald, 2007) among teachers and students, as well as construct a relationship via encouraging discussions (Buskist & Saville, 2001).

Research has also shown that teachers and lecturers are now utilizing the internet technologies for teaching and learning which is changing informal learning into formal learning (Manan et al., 2012). Bankole (2013) indicated that compared to another field of endeavour, the internet exerts influence on the educational sector more because it is being used for diverse uses. Therefore, integrating internet technology into the students' learning process has been shown to provide students with an opportunity to take control of their learning activities, which in turn boost their confidence (Yunus, Salehi, & Chenzi, 2012). This student-centred learning approach is what is changing the culture of many of today's learning classrooms because it makes learning accessible anytime, anywhere as students who missed an instructor's lecture in the classroom could go over it. Against this backdrop, this project attempts to ascertain university student's usage of internet for research and learning, with a focus on Taraba State University students.

1.2 Statement of the Problem

The internet is viewed like most technologies as a two-edged blade that could be used positively and negatively. The positive aspect of the internet could also be thwarted in a negative dimension. For instance, as a tool for message delivery, the internet has transformed the mode of relationship in the society, prompted a new type of addiction, and made terrestrial boundaries extraneous. Nevertheless, substantial research evidence has confirmed that the advancements in information technology and the growth of the Internet have influenced student approaches toward research and learning in the present-day advanced educational settings that consist of both graduate and undergraduate students. For example, a research has designated that the internet is now a significant tool for modifying human performance (Ogaji et al., 2017; Steyer, 2015). This has now developed into a platform for student interactions and learning (McLeod, 2008). Intrinsically, computer and the internet to a large extent has been shown to influence students' research and educational development (Roudbaraki & Esfidvajani, 2011).

This means that the use of internet resources and technologies for educational purposes can never be overstressed (Manasijević et al., 2016). This has transformed the higher educational training as well as improved educational growth and research, through virtual communications, sourcing, and sharing research discoveries (Iyendo & Halil, 2015). Strengthening this view, research has likewise established that the information communication technology such as the internet and its resources has been widely adopted in tertiary institutions around the world (Dogruer, 2011). This supports the notion which suggests that in the last few years the use of internet has drastically increased (Owusu-Ansah, 2013). According to Bargeron et al., (2002), the internet is an inseparable part of the contemporary educational system and most institutions are now depending on the internet for educational activities. It has also been observed that a considerable number of educational institutions today provide internet connectivity to its students, instructors and researchers (Sian, Yamin, & Ishak, 2013).

Therefore, in this era of technological progress, it is expected of students in tertiary institutions to be computer literate and use the internet to ease their learning and research. A study has shown that in recent decades, students have been well educated through the use of the internet and its resources, and this has effectively assisted them to undertake significant investigations (Devi & Roy, 2012). Madu, Otuka, and Adebayo (2011) contend that globally, the utilisation of internet for the sake of research and learning in the university settings is now a thing of necessity and having access and a positive mindset towards its usage for academic purposes its necessary for the effective use and integration. Therefore, ascertaining students' usage of the internet for research and learning in the educational context will enable universities to know if they are meeting up to the needs of students as regards the availability of internet resources for learning and research.

From the above submission, it is worthwhile to mention that the use of internet in the educational settings has attracted a growing body of research, yet, investigating the use of internet for the sake of research and learning in Nigeria is still in its embryonic stage. Specifically, there are no studies that have examined tudents of Taraba State University usage of the internet for research and learning. Hence, it is therefore pertinent for research to also inquire the use of internet resources for academic purpose among Taraba State University students. This will contribute and extend the literature on internet use in the educational milieu. As it is in almost all tertiary institutions of learning around the globe, Nigerian students are regularly obligated to undertake various research work as they advance through their academic pursuit. The potentials of their research work as regards to the thesis, projects, class, and homework are mainly reliant on the quality, quantity, and recency of resources consulted and cited (Ilo & Ifijeh, 2010). Therefore, to efficiently make use of internet resources for learning and research, they need to demonstrate skills that include methods for searching pertinent materials, strategy for assessing the quality of documents retrieved, as well as basic knowledge of how to send and receive an email (Nwezeh, 2010). The results of this research will contribute to the existing empirical investigation outcomes that are helpful for informing teaching and learning exercise in higher educational context. Indeed, this study will be of help to prospective researchers because it will provide a suggestion for further research to build on. This will benefit students, instructors, librarians and the readers in general.

1.3 Aim and Objectives of the Study

The primary purpose of this project is to investigate the usage of internet for research and learning among Taraba State University students. Hence, this work will be guided by the following objectives:

i. To find out the students' accessibility and exposure to internet resources for academic research and learning.
ii. To establish the students' perceived benefits of retrieving and employing of electronic resources in their research and learning.
iii. To realize the search engines and scientific database frequently consulted for research and learning among the students.
iv. To infer the challenges confronting the students as regards the access and application of internet resources for research and learning.

2. Review of Related Literature

2.1 Brief history of internet

Historically, it has been shown that the internet was established in the early 1960s and eventually turned into a tool used by the majority (Schneider, Evans, & Pinard, 2006). At the initial stage, it was called the ARPANET, a network of computer project funded by the United States of America. By the year 1971 and 1972 these technologies grew, and by 1973 it expanded beyond the United State into other European countries (Rüzgar, 2005).

The internet has been defined as a worldwide system of networks that publicly connects millions of individuals (Rüzgar, 2005). It lets people and business to relate and disseminate data, resources and services (Almarabeh, Majdalawi, & Mohammad, 2016). According to Singh (2002), the internet connects millions of smaller, local, international, educational and governmental networks that permit interactivity between people without any terrestrial hindrance. It allows people to access data along numerous points (Adeniran, 2008), and most of these data comprise interconnected hypertext files and resources on the web.

2.2 The Internet and Higher Education

Evidence has shown that there is a large proportion of learning materials found on the internet which permits students to get quick access (Alshammari, 2014; Sahin, Balta, & Ercan, 2010). This is not surprising as Zainudin, Din, and Othman (2013) in their study concluded that the internet aid students in carrying out their assignments, undertake research and even releases their stress. The authors added that the internet improves students' communication skills, promotes their relationship and boost their CGPA.

There has been research argument regarding the students use of the internet, some authors claim that the use of internet by students is mainly for entertainment reasons, since the internet was not only designed for seeking information, but also for bringing individuals together (Dogruer, Eyyam, & Menevis, 2011). The internet, though, does provide leisure and social interactivity,

yet, many academic and scientific resources are also found on the internet. It is, therefore, necessary to encourage students to make use of the internet to retrieve pertinent research materials because the advent of the internet will be baseless if not properly integrated into the educational sector. Thus, evidence has shown that the internet is now widely used in the tertiary institutions around the world (Park & Biddix, 2008). Additionally, a research has supported that the use of the internet has the potential of improving the quality of research and learning as it permits students to be critical and creative, thereby solving pertinent problems in the academics and beyond (Charp, 2000). This view is in harmony with Limaye and Fotwengel (2015) findings, which indicates that the internet permit students to share ideas, knowledge, and accomplishments with their peers abroad, and this enhances their understanding, capabilities in studies as well as professional life at large. This is not surprising as studies have indicated that students now use the internet to do their homework, classwork, and other related research activities, and this has attracted attention in the educational sector as it regards the integration of technology into the tertiary institution's curriculum across the globe (Asselin & Moayeri, 2008; Wallace, 2004).

Todd (2008) concludes that students prefer to make use of the internet to do school work because they perceive its benefits as it relates to achieving a good research project and assignments. Indeed, the academic setting has been completely transformed by the recent development of the internet and its resources. Hence, to benefit from the large resources available on the internet, a student needs to demonstrate a moderate level of technological literacy. Technological literacy has been specified as possessing a fuller understanding of when and why certain information is needed, where to obtain it, ways to evaluate and practice it to accomplish certain objectives (Gullbekk, Skagen, Toning, & Calvo, 2009). This indicates that technological literacy goes beyond exploring and evaluating materials online, to using such material, thereby creating knowledge and sharing ideas (Todd, 2008).

Against this backdrop, it is pertinent to review past empirical studies to show the use of internet among students in higher educational settings.

2.3 Empirical Review

Ivwighreghweta and Igere (2014) investigate the effect of the internet on the academic performance of students in some selected tertiary institutions in Nigeria. A survey research design was adopted with questionnaire as the tool applied for data collection. A total of 5000 students responded to the study. The study results discovered that most of the participates were computer literate and that they utilize the internet. It was set out that the students often access the internet from Cyber Café and use it to retrieve relevant academic materials such as E-journals and E-books. The students also affirmed that the internet assists them to better prepare for their examinations. Nevertheless, it was found that some of the problems confronting students' effective access and usage of the internet include power failure, slow internet speed, insufficient computer and limited computer terminals.

Similarly, Ahmed and Bukar (2016) found that majority of the students who utilize the internet for educational and entertainment purposes depended on their mobile devices for internet access. A descriptive survey method was applied, using questionnaire as the instruments for

data retrieval. A total of 510 participated in the survey. The paper suggests that the institution's management should include method of information retrieval in its computer related and information technology courses to improve students' knowledge related needs. The study advocated that the institutions should improve their e-learning and internet access services, as well as should implement the use of tablets to enhance e-learning. It was recommended that the national education planners should integrate the use of the internet for research in the curriculum of social and management students in the institutions of higher learning in the country. In another related study, Fasae and Adegbilero-Iwari (2015) discovered that science students who regularly access the internet facilities on their smartphones, such as e-mails, social media and search engines, utilize it for educational and communication functions. However, poor internet connectivity and the high cost of data subscription were identified to be the major challenges confronting the students. A descriptive survey, with structured questionnaire as the instrument was used for data collection. A total of 80 science students (66.3 % were female and 33.8 % were male) participated in the survey.

Consistent with the above findings, Otunla (2013) who find out the internet access and use among undergraduate students in Bowen University Iwo, Osun State, reported that a considerable number of undergraduate students accessed and use the internet through their mobile telephones and laptops using a modem as a router, whereas a few accessed the internet through the University digital centre and none accessed through the University Library. It was likewise shown that the internet made data retrieval easier, resulting in a positive impact on student's educational development. The study employed a descriptive survey research design, using questionnaires to elicit data from the respondents. A total of 300 undergraduate students participated in the survey.

In line with the above study, Nwagwu et al. (2009) studied the factors influencing internet usage by students in the University of Ibadan, Nigeria. The study employed a descriptive survey design with questionnaire as the instrument for data collection. A total of 511 students participated in the study. The study found that most of the students utilize the internet for educational purposes, however, it varied with age, level of study and faculty. It was observed that those in the higher classes utilize the internet more often and have lesser time for leisure and entertainment. The students believed that the information derived from the internet is useful and trustworthy.

In line with the aforementioned findings, Nwezeh (2010) evaluated the effectiveness and usage of internet on teaching, learning and research within universities in Nigeria with a focus on OAU, Ile-Ife, Osun State. A descriptive survey, with questionnaires as the instrument for data collection was used. A total of 865 that included 750 students and115 academic staff participated in the study. Results showed that most of the academic staff and the students found the internet to be beneficial, which in turn improved their access to information in their various disciplines including their academic performance. E-mail and the world wide web (WWW) were the major internet resources patronized by both groups (staff and students). The study recommends that workshops should be organized for academics on the use of the internet for teaching and research. The study also suggested that the use of e-mail for disseminating information to students should be highly encouraged.

A similar empirical evidence proposed that the use of e-mail for academic-related activities should be encouraged among students in order to harness its full potential in improving academic performance (Nketiah-Amponsah et al., 2017). As such Apuke and Iyendo (2018) investigates the place of the internet in academic research and learning of students, through both quantitative and qualitative research approaches, using 250 undergraduate students in three selected universities within North-Eastern Nigeria. To gain an in-depth understanding of the perception of the students' views, a focus group was conducted with 18 students. It was found that the students perceived that the lack of digital readiness among their staff and institution, the absence of electronic library for easy accessibility to journals from the scientific database, and inefficient cybercafe and internet facility within their university settings were the main issues discouraging the utilization of the internet within their institutions. Yet, they still strive to find ways through self-organization, resilience and resourcefulness to make use of the internet to facilitate their studies. Most of them stated that they depended on their smartphone/handsets to access the internet through subscription from other internet providers and have become overly reliant on Google, Yahoo, and open access e-Journals. Nevertheless, the students believed that the use of internet enabled them to perform research ahead of time, tackle multiple homework, widens the scope of reading and learning, promotes self-learning, encourages and enhances peer learning as well as ameliorates student's examination preparation.

As demonstrated in the studies reviewed thus far, there is evidence to show that the use of internet in the educational settings has attracted a growing body of research in the Nigerian context, yet, there has been very limited research conducted among students in the Northeastern part of Nigeria. It is worthwhile to note that, in this region, technological development in Universities is not much advanced and very little research has been carried out to show the implementation of ICT as compared to Universities in other parts of Nigeria (Apuke & Iyendo, 2018). Thus, there is the need for a study to investigate how students in this region find ways to make use of the internet to facilitate their studies. This current study fills the gap with a focus on TSU students.

2.4 Theoretical Framework

2.4.1 Use and Gratification Theory (UGT)

The use and gratification theory was conceptualised by Katz, Blumler, and Gurevitch to explain what people do with the media rather than what the media does to them and has since been extended to include the benefits that attract and hold audiences to diverse types of media and the types of content that satisfy their social and psychological demands (Gan & Li, 2018; Apuke, 2016). According to Adamu (2015), when the UGT was conceptualised, it was used on traditional media audiences, however, it is now relevant to investigations related to new media technologies. Sahin, Balta, and Ercan (2010) affirmed that the uses and gratifications research typically focusses on how media are used to satisfy cognitive and affective needs. It proposes that media consumers are active in taking a medium to satisfy their demands (Li et al., 2015).

 Explicitly, it centres on why people choose one media over other options in order to satisfy a variety of needs (Gan & Li, 2018; Quan-Haase & Young, 2010). Students today have various

educational needs that stem from research and learning, in which they use the internet and this leads to different exposure to its application as well as varying levels of gratification (Wimmer & Dominick, 2013). Therefore, the theory offers knowledge on why people use the cyberspace and the benefits derived. It depicts how the media audiences seek out information and utilize such information to meet their demands. Thus, it recognises the competence of an audience and their ability to use only what is significant to them (Baran & Davis, 2011).

Based on this postulation, the theory has undergone some criticism, because the audience seems to demonstrate absolute selectiveness, and the theory centres more on the functions of the media as well as provided little explanation as to the actual effect of the media after an audience have judiciously selected a message (Baran & Davis, 2011). Nevertheless, it is still vital in explaining the uses and the gratification gain from using a particular media over another. Since this present student is aimed at understanding the perceptual experience of students as regards the role of the internet and its benefit for their inquiry and learning, it is therefore suitable. Asemah (2011) concludes that UGT shows how people utilize the media and the benefits therein.

Consistent with this view, an extensive amount of prior research has highlighted the gratifications gained in the usage of the internet for academic research and learning. Example of this benefit is that the use of internet enhances the learning procedure in terms of improving academic performance, advancing research knowledge, critical thinking promotes self and collective learning, encourages the motivation to study, develops self-confidence as well as improve the overall teaching methods. This means that it complements the conventional classroom lectures, provide an extensive knowledge that ameliorates learning and inquiry actions, enhanced skills and potentials, which in turn, facilitated studies (Bashir et al., 2016; Selwyn & Gorard, 2016; Fasae & Adegbilero-Iwari, 2015).

Relating this theory to the current work, tertiary institution students use the internet for various functions depending on the satisfaction they get. Some may employ it for communication and chatting, while others to obtain educational information that best improves their learning and inquiry. These students choose and employ internet technologies based on how effective it meets their precise goals (Ekwueme & Akagwu, 2017; Apuke & Ezeah, 2017). In terms of research and learning, students have the right to select which search engine (e-journals, e-books, e-conference, and proceeding) and database to consult as well as the medium to be used (smartphone, computer, school library) and the time for accessing information that promotes their academic research and learning based on the benefits they obtain. In this respect, this current study will contribute to the use and gratification postulation as it will demonstrate the uses and the perceived gratification the sampled students derive from using the internet for their inquiry and learning.

3. Methodology

3.1 Research Design

This study employs a survey with a questionnaire as the instrument, which was administered to some randomly selected students.

University of Nebraska - Lincoln

3.2 Study Area/Population of the study

Taraba state University Jalingo was established in 2008 by the then Governor of Taraba State, His Excellency Pharmacist Danbaba Danfulani Suntai under the law No. 4. The University started with four (4) Faculties and eighteen departments. In March 2009, a total of five hundred and eight-two (582) students were admitted into the preliminary studies programme of the University. From this number 356 were admitted into various degree programmes of the institution thereby laying the necessary foundation for the undergraduate programmes proper. (source: www.tsuj.edu.ng, 2019).

Presently the university has 8 faculties to include Agriculture, Arts, Education, Engineering, Health sciences, Law, Sciences, as well as social and management sciences. Furthermore, the university runs both undergraduates and postgraduates.

The population of this study includes all undergraduate students of Taraba State University, Jalingo within the 2018/2019 academic session. The student's population in the university is about fifteen thousand (15000) (Registry, 2019).

3.3 Sample Size

To arrive at the sampled size for the quantitative survey, a Taro Yame's formula (Yamane, 1967) was used. It has been shown that this formula is suitable when a population is already known and it is difficult to reach or distribute questionnaire to the entire population (Ugwuanyi & Ibe, 2012). Thus, the total number of the students was used to calculate the sample size using Taro Yame's formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

n= Sample size
N= total population of the study i.e. 15000
e = level of error i.e. 0.05

$$n = \frac{15000}{1 + 15000(0.05)^2}$$

$$n = \frac{15000}{1 + 15000(0.0025)}$$

$$n = \frac{15000}{38.5}$$

$$n = 390$$

Drawing from the above Taro Yamane's sample size calculation, the sample size for this study is approximately 390 students.

3.4 Sampling Technique and Procedure

In this current study, the researchers used simple random sampling techniques. Yates, David and Daren (2008) see simple random sampling as a subset of individuals (a sample) chosen from a larger set (a population). Each individual is chosen randomly and entirely by chance,

such that each individual has the same probability of being chosen at any stage during the sampling process, and each subset of individuals has the same probability of being chosen for the sample as any other subset of individuals. The essence of using simple random sampling was to give opportunity for anyone in the population to be chosen or selected. In addition, the sampled students do not have the same schedule of lectures, assignments, and other activities, as such, using random sampling is appropriate to reach the desired students.

3.5 Research Instrument and Administration

The instrument used for the collection of data for this study was questionnaire. The questionnaire was self-administered to the respondents. It consist of five sections to include demographic characteristics of respondents; 'student's perception as regards the accessibility and exposure to internet resources for academic research and learning'; 'substantial positive impact of retrieving and employing of electronic resources on the students' research and learning'; 'the search engines and scientific database frequently consulted for research and learning among the students'; and the 'challenges confronting students as regards the access and application of internet resources for research and learning'. Furthermore, the questionnaire contained close and open-ended questions. This was done in order to realise in in-depth the students' perspectives. The questions of the questionnaire were modified from past research (Ahmed & Bukar 2016; Ani 2010; Bankole, 2013; Dogruer, Eyyam & Menevis, 2011) to suit into the context of this study.

3.6 Method of Data Collection

Procedure for data collection is a technique for gathering data for drawing inferences, making explanations, analysis and predictions. In this current study, the researchers, along with two research assistants employed to fasten the process administered 390 copies of structured questionnaires to students in their lecture theatres, Libraries and school restaurants. In some cases, the researchers waited for the respondents to fill the questionnaire on the spot, while other participants were allowed to go home and fill the questionnaire with the assurance it will be brought back.

3.7 Validity and Reliability of the Instrument

Before the investigation, the drafted questionnaire was submitted to the supervisor of this research and two experts in the field of communication. This ensured a thorough scrutiny of the questions so as to conform to the aim of this study. Furthermore, a pilot study was undertaken among 20 students who are not part of the sampled participants, so as to test if the questions are well understood and can serve the purpose of the study. A reliability test was performed which yield a Cronbach alpha of .70 which is acceptable. All questions were retained for further analysis.

3.8 Data Presentation and Analysis

The generated data from the administered questionnaire was entered into the Statistical package for social sciences (SPSS version 22) and analysed using frequency counts and simple percentage, presented with graphs and tables.

4. Data Presentation and Analysis

The researchers realised that of the three hundred and ninety (n=390) questionnaires distributed randomly across faculties, three hundred and fifty (n=350) was found useable, due to the fact that some questionnaires were not completely filled rendering it useless. Nevertheless, the return rate is 89.7%, which is an acceptable rate. Thus, this study's analysis will be carried base on the returned number of questionnaires.

4.1 Demography of respondents

4.1: Students profile

| Inquiry	Replies	Frequency	Percentages (%)
What is your gender?	Male	150	42.9%
	Female	200	57.1%
What is your age range?	16-20 years	80	22.9%
	21-24 years	200	57.1%
	26-30 years	50	14.3%
	31 and above	20	5.8%
What is your marital status?	Married	50	14.3
	Single	300	85.7%
	Divorce	0	0%
What is your faculty	Faculty of Health Sciences	30	8.5%
	Faculty of Law	20	5.7%
	Faculty of Social and Mgt Sciences	150	42.8%
	Faculty of Education	50	14.3%
	Faculty of Sciences	20	5.7%
	Faculty of Art and Humanities	50	14.3%
	Faculty of Engineering	15	4.3%
	Faculty of Agriculture	15	4.3%
What level are you?	100 Level	10	2.9%
	200 Level	50	14.3
	300 Level	100	28.6
	400 Level	140	40%
	500 Level	50	14.3%
Total		**350**	**100%**

Source: Field survey, 2019

Table 4.1 above demonstrates the student's profile. Results showed that there were more female (57.1%) students than male (42.9%). In terms of age, more than half of the students (57.1%)

reported to be within the ages of 21-24. Further results from the sample showed there were more single students (85.7%) than married students (14.3%), and this could be due to the fact that the sample is undergraduate students. Eight faculties that participated in the survey, faculty of social and management sciences students participated more (42.8%) than any other faculty, and this could be due to the fact that they have more students than any other faculty in the institution.

4.2 The students' accessibility and exposure to internet resources for academic research and learning.

As shown in Figure 4.1, the researchers inquired if the respondents have access to internet facilities. Based on the findings, it was ascertained that a large number of the respondents (n=330) 94% agreed that they have access to internet facilities. While, only a few 20 (6%) stated they do not have access. In this regard, the next section inquired the extent of the students' access to internet facilities and resources.
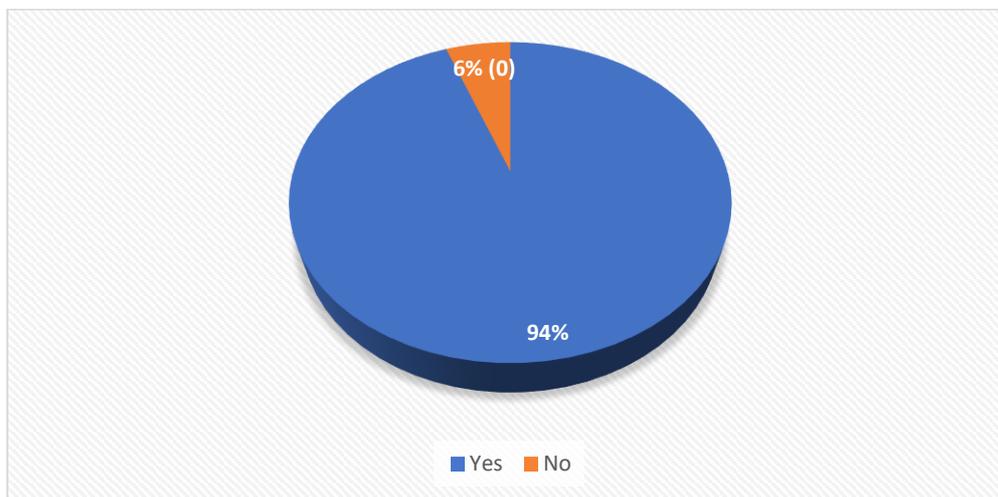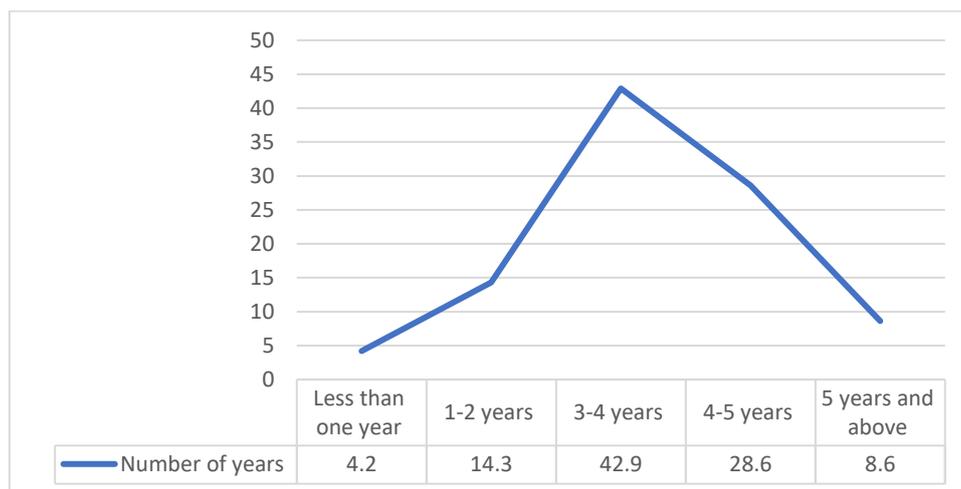

Figure 4.1: Access to Internet

Findings in Figure 4.2 demonstrate that a huge proportion of the students (n=200) 57.1% reported that to some extent they are exposed to the internet facilities, while (n=100) 28.6% alleged that they are exposed to the internet to a large extent.
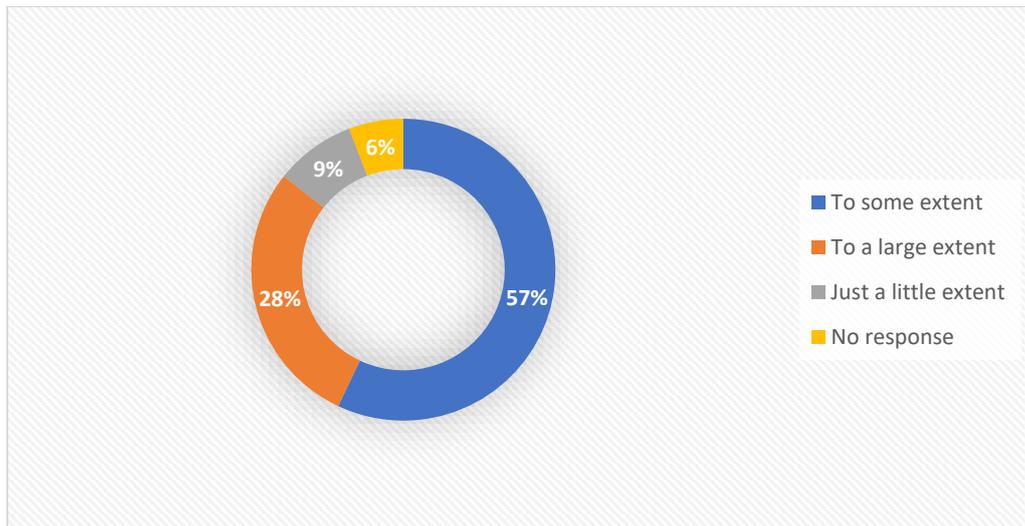
Figure 4. 2: Extent to student exposure to the internet facilities.

On the other hand, (n=30) 8.6 maintained that they are exposed to the internet just a little extent and (n=20) 5.8% had no response to the question asked.

The data (Figure 4.3) shows that a good amount of the students (42.9%) reported to have between 3-4 years internet experience, this is followed by (28.6%) who stated to have 4-5 years internet experience, 14.3% had 1-2 years internet experience, 4.2% said they have less than one year experience and only 8.6% of the respondents reported to have more than 5 years' experience.

	Less than one year	1-2 years	3-4 years	4-5 years	5 years and above
Number of years	4.2	14.3	42.9	28.6	8.6

**Figure 4. 3**:Years of respondents' internet experience.

In Figure 4.4, the investigator asked the respondent to state where they access the internet the most. This implies the location they frequently access and use the internet. As shown in Figure 4.4, most of the participants (57%) prefer and access the internet from their homes/dormitories, 28% of the sampled students alleged that they access and prefer to use the internet in the school premises, whereas 9% prefer to access the internet more frequently from Cafés in the school/town and only 6% of the sampled students stated that they mostly access and use the internet in the library.
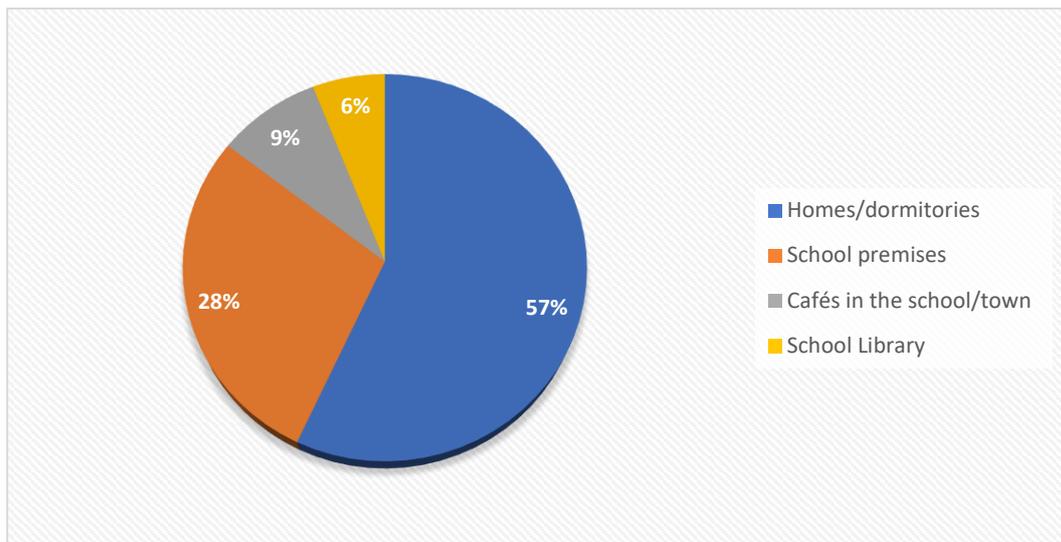
Figure 4. 4: Students preferred internet access point

It is clear that the students have many points of accessing the internet; however, most of them prefer to access it from home and dormitories. This suggests the institution do not provide adequate avenue for the students to get expose to internet facilities and database so as to improve their research and learning.

Furthermore, the researchers seek from the students the medium and a tool in which they prefer to access the internet. In this study, the medium refers to the gadgets or tools that aid them in accessing the internet. According to the data in Figure 4.5, the majority of the students (63%) prefer to use their mobile/smartphones as a medium for accessing the internet services. 28% said they prefer to use their Tablet, while only 9% stated Laptop.
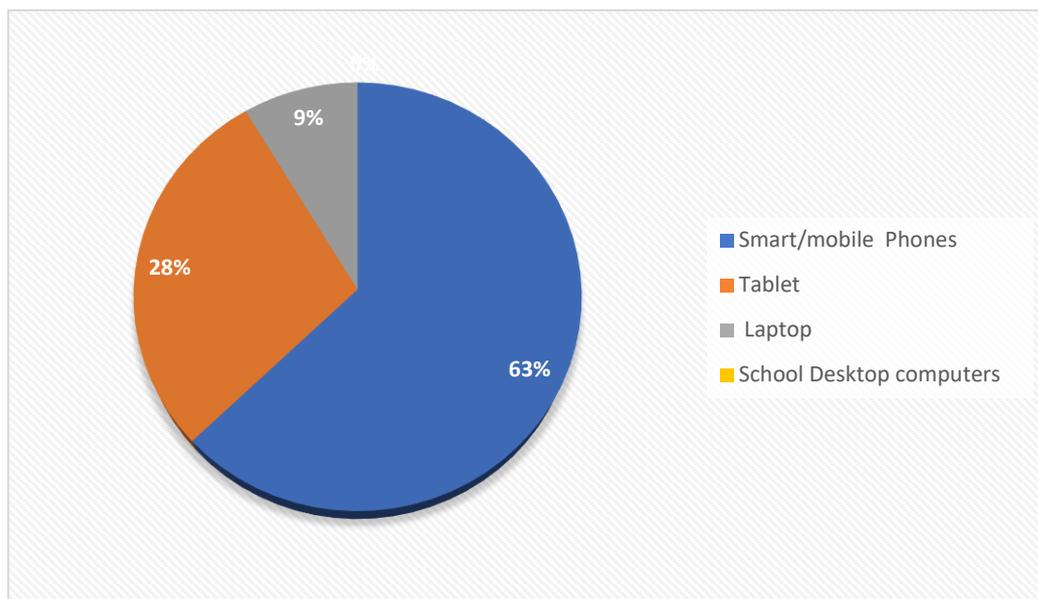
Figure 4. 5: The medium students use to access the internet.

The researchers further inquired from the students how often they access and use internet facilities which could either be daily, once in a week, 2-6 times a week, only when they have an assignment, or weekends that is Saturday and Sunday. As shown in Figure 4.6, a high proportion of the students 71.4% claim that they access and make use of the internet on a daily basis. 20% said they make use of the internet 2-6 times a week, while 8.6% said they make use of the internet once in a week, no student said they make use of the internet only when they have assignments or weekends.

As shown in Figure 4.6, a high proportion that is 180 making 75% of the students claim that they access and make use of the internet on a daily basis. 30 students making 12.5% said they make use of the internet 2-6 times a week, 15 students making 6.2% said they make use of the internet once in a week, 10 of the students making 4.2% asserted that they make use of the internet only when they have assignments.

Overall, it could be deduced that a large proportion of the sampled students make use of the internet on a daily basis.
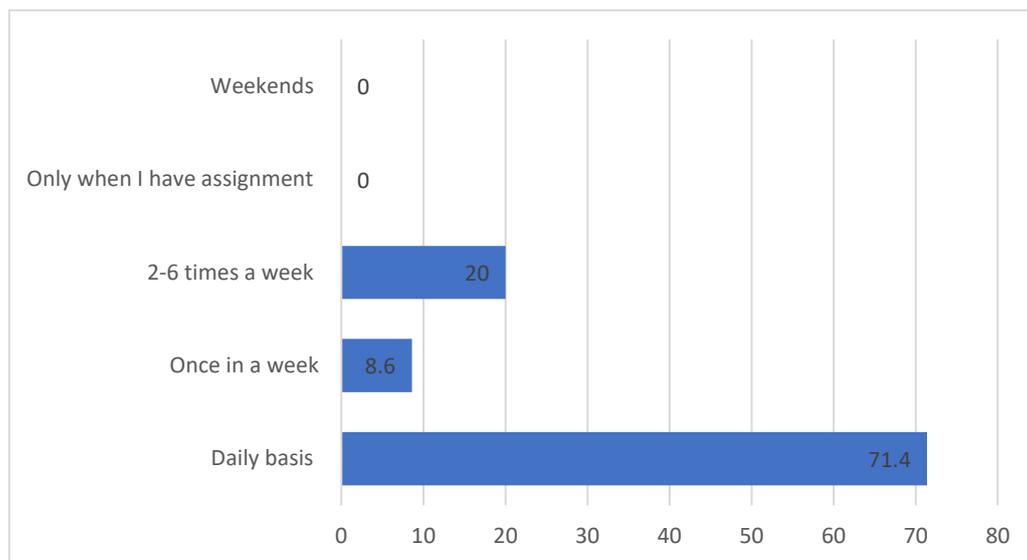
Figure 4. 6: Students frequency of internet usage.

As demonstrated in Figure 4.7 the researchers asked the students the average time, they spend on the internet which could either be less than 30 minutes, 30 minutes to 1 hour, 1-2 hours, 2-3 hours or 3 hours and above. Results obtained showed that a high portion of the students that is 74.1% claim that when they make use of the internet, they use it for more than three hours. 20% said when they make use of the internet, they use it for about two-three hours, 8.6% of the students said when they make use of the internet; they use it for one-two hours. Overall, it can be inferred that when the students make use of the internet, they use it for more than three hours which shows a considerable rate of internet usage.
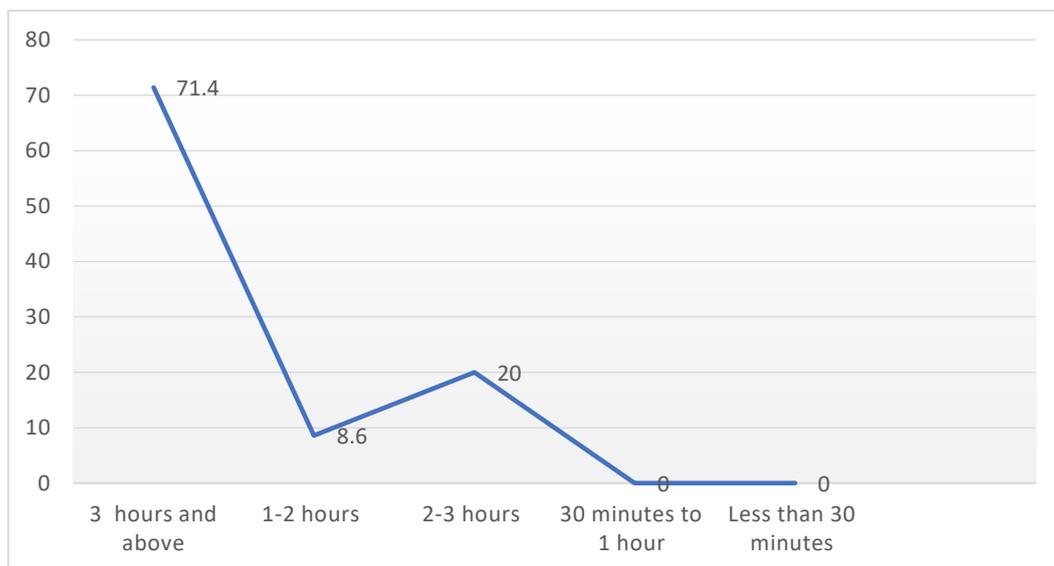
Figure 4. 7: Average time spent on the internet.

4.3 Perceived benefits of adopting electronic resources on the students' research and learning

As shown in Table 4.2, the students were asked based on a Likert scale if they make use of the internet for academic purposes. Results demonstrate that a large portion that is 205 making 58.5% strongly agreed that they make use of the internet for academic purpose. This was supported by 105 participants making 30% who agreed that they make use of the internet for academic purposes. Only few 20 making 5.7% and another 20 making 5.7% disagreed and remained undecided respectively. Based on these results, it could be said that an overwhelming number of the students make use of the internet for academic purposes.

4.2: You make use of the internet for academic purpose.

Response	Frequency	Percentage %
Strongly agreed	205	58.5%
Agreed	105	30%
Strongly disagreed	0	0%
Disagreed	20	5.7%
Undecided	20	5.7%
Total	**350**	**100%**

Aside using the internet for academic purpose, the students were asked to state other things they do with the internet. This was an open-ended question that allowed the students to comment on other activities they do with the internet. It was found that a large proportion of the students (80%) remarked that they use the internet for entertainment and communicating with friends and family. While others claim that they use the internet to search for general information that improves their well-being. This implies that entertainment and communication is among the most welcomed activities carried out by the respondents. Nevertheless, they maintained that internet use for their educational purposes is also paramount.

As demonstrated in Table 4.3, the researchers inquired from the students if the use of the internet has impacted their research and learning. A Likert scale was used to ascertain the degree of acceptance as regards the internet resources impact on the students' research and learning.

4.3: Internet usage has improved your research and learning.

Response	Frequency	Percentage %
Strongly agreed	220	62.8%
Agreed	120	34.2%
Strongly disagreed	20	5.7%
Disagreed	20	5.7%
Undecided	0	0
Total	**350**	**100%**

The findings from Table 4.3 showed that 220 participants making 62.8% strongly agreed that the use of internet has improved their research and learning. This claim is also supported by 120 other participants' making 34.2% who agreed that the use of internet has improved their research and learning. On the contrary, a very little number 20 making 5.7% of the participants strongly disagreed that the internet has improved their research and learning. Additionally, 20 other participants making 5.7% also disagreed that the internet has improved their research and learning. In general, these results have shown that the utilization of the internet has improved the learning and research of the students. The subsequent questions will demonstrate the areas in which the internet has improved the students overall learning and research.

Furthermore, as illustrated in Table 4.4, the researchers inquired from the students, their perceived benefits as regards the utilization of internet resources.

4.4: Highlight the benefits of the use of internet resources.

Response	Frequency	Percentage %
Eases research and learning process	200	57.1%
Availability of prior and recent valuable literature	30	8.6%
Improves quality of research	60	17.1%
Easy retrieval of credible information	20	5.7%
Undecided	40	11.4%
Total	**350**	**100%**

It could be seen that the students highlighted various benefits derived from the use of internet resources, however, most of them 200 amounting to 57.1% believe that the use of internet eases research and learning which implies that it simplifies research and learning. This ranking is followed by 60 making 17.1% of the participants who remarked that the use of internet improves the quality of research, 30 making 8.6% agreed that the internet provides prior and recent valuable literature, this is supported by 20 other participants making 5.7% who asserted that the internet provides easy retrieval of credible information. While 40 other participants making 11.4% remained undecided. This is not surprising as shown in Table 4.3 a collective number of 40 students debunked that internet do not improve their academics.

To further understand how the internet, improved the students' academic research and learning, table 4.5 was computed and the researchers inquired from the student to specify how the use of the internet has improved their research and learning. The students pointed out to the different ways the internet has improved their learning and top on this list as highlight by 150 making 42,.9% of the participants' is that the internet usage has assisted them to undertake substantive and scientific project/research ahead of time.

Table 4.5: How the internet has helped the students learning and research

Response	Frequency	Percentage %
It assists me in carrying out substantive and scientific project/research ahead of time	150	42.9%
It helps me prepare better for examination	80	22.9%
It helps me attain wider understanding and knowledge of what is taught in class	60	17.1%
It aids me to prepare better for class presentation	20	5.7%
No response	40	11.4%
Total	**350**	**100%**

This ranking is followed by 80 making 22.9% of the respondents who claimed that the use of the internet helps them prepare better for examination, while 60 making 17.1% alleged that the use of internet has helped them attain wider understanding and knowledge on what is taught in their classroom. This notion is supported by another 20 making 7.5% of the respondents' who stated that the use of the internet helps them prepare better for class presentation. While 40 making 11.4% had no response to the question. Overall, it could be said that the use of internet is indeed improving these students' academic research and learning in various ways.

4.4 The search engines and database mostly consulted for research and learning

Results from Figure 4.8 establish that most of the participants 43% said they prefer and use Google search engine frequently, 23% of the sampled students alleged that they prefer to make use Google scholar search engine, whereas 17% prefer to use Yahoo search engine, 11% said they prefer Bing search engine and only 6% stated that they prefer and frequently use Ask.com search engine. It is clear that the students use various search engines but Google and Google Scholar search engine is the most preferred and used among them.
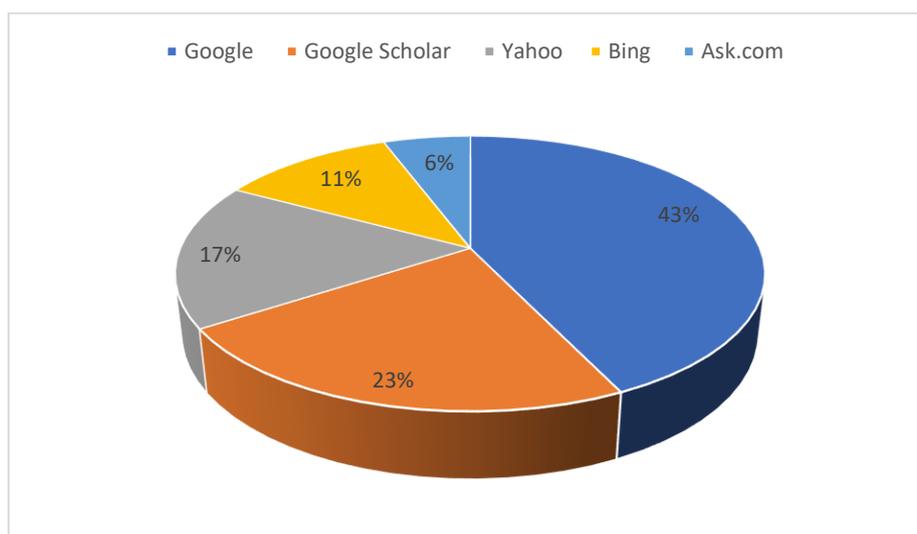
Figure 4.8 Search engine mostly used among the students

4.5 The challenges the students' encountered with regards to the access and usage of internet for research and learning

A large proportion of the students 80% said they have challenges as regards to the access and usage of internet in their academic environment. Based on the open-ended question, approximately 86% of students claimed that their universities do not have an efficient cybercafe and internet facility. most of the students believed that the inefficient and inadequate internet facility within their university premises might have limited their access. This has resulted in the overdependency on their mobile telephone, as well as purchasing internet data plans from other service providers such as mobile telecommunication company (MTN Group), Globacom, Etisalat and Airtel telecommunications company. This is one major aspect that hinders the student's regular access and utilization of the internet, which likely slowed down the pace of carrying out assignments given to them in school. It was observed that the subscription of data plan is sometimes problematic, as there are time lags in the internet connectivity and slow access speed of these networks.

A considerable number of the students had the opinion that compared to the higher institution in developed countries, their institution needs an electronic library, where they can easily access scientific journals from databases such as Elsevier, Springer, Taylor and Francis, Wiley, SAGE and Emerald. They believed that this will lessen the reliance on Google, Google Scholar and open access journals as well as will provide a means to explore other related scientific papers, in order to elevate their academic learning and research beyond its current situation.

Some of the students observed that they come across substantial and relevant scientific papers online but could not gain access to them, due to lack of subscription to scientific databases by their institutions. The students noted that most scientific papers cost from $15 upward and this often restrict their access to scientific journals, as well as affecting their quality of research. The students also believed that the irregularity of power supply in their University premises, dormitory and homes, discourages internet accessibility for academic purposes, as sometimes they run out of power/battery on their mobile and Laptop devices. This submission means there is insufficient digital readiness among the sampled institutions. Nevertheless, the students still make it a priority to harness the essence of the internet through other self-generated means, and this has enhanced their research and learning to an extent.

4.6 Discussion of Findings

The first research question sought to find out if the students' access and are exposed to internet resources for academic research and learning. Findings showed that a large number of the respondents (n=330) 94% agreed that they have access to internet facilities. While, only a few 20 (6%) stated they do not. Findings further demonstrate that a huge proportion of the students 57.1% reported that to some extent they are exposed to the internet facilities. A good amount of the students (42.9%) reported to have between 3-4 years internet experience, this is followed by (28.6%) who stated to have 4-5 years internet experience, 14.3% had 1-2 years internet experience, 4.2% said they have less than one year experience and only 8.6% of the respondents reported to have more than 5 years' experience. Additionally, most of the participants (57%) prefer and access the internet from their homes/dormitories, 28% of the sampled students

alleged that they access and prefer to use the internet in the school premises, whereas 9% prefer to access the internet more frequently from Cafés in the school/town and only 6% of the sampled students stated that they mostly access and use the internet in the library. With regards to the medium students use to access the internet. majority of the students (63%) prefer to use their mobile/smartphones as a medium for accessing the internet services. 28% said they prefer to use their Tablet, while only 9% stated Laptop. This result is in line with Ahmed and Bukar (2016) who reported that most of the Adamawa state students in Nigeria who use the internet for educational and entertainment purposes, depended sorely on their mobile phones for internet access. The result obtained in this current study also support the findings of a survey conducted among students of Istanbul University in Turkey, which shows students, used their own personal computers, laptops and tablet to access the internet and a considerable amount of the students reported that they access the internet on their smartphones (Deniz & Geyik, 2015).

Research question two attempts to find out the perceived impact students derive from the utilization of internet resources for their learning and research in general. First, the students were asked if they make use of the internet for academic purpose, the general advantage of using internet for educational purpose and the personal benefit they are gaining from using the internet for their research and learning. Results demonstrate that a large portion 58.5% strongly agreed that they make use of the internet for academic purpose, 30% agreed that they make use of the internet for academic purposes and only 5.7% and another 5.7% disagreed and remained undecided respectively. The students also mentioned that apart from educational activities, they also use the internet for entertainment and communicating with friends and family as well as search for general information that improves their well-being. This outcome is related to the use and gratification theory which focusses on how media are used to satisfy cognitive and affective needs. Based on this theory, media consumers are active in taking a medium to satisfy their demands (Li et al., 2015; Sahin, Balta, & Ercan, 2010). Thus, tertiary institution students could use the internet for various functions depending on the satisfaction they get. Some may employ it for communication and chatting, while others to obtain educational information that best improves their learning and inquiry (Ekwueme & Akagwu, 2017; Apuke & Ezeah, 2017). In this regard, the outcome of this current study suggests TSU students use the internet more for educational purposes than entertainment due to the benefits they derive from it. These findings are different from a survey carried out among undergraduate students in one Turkish University, which indicated that the bulk of the students claim to use electronic resources, mainly for entertainment functions such as chatting, downloading pictures, listening to music, games and online shopping. Only a few numbers of the students reported that they utilize the internet for their research and learning (Deniz & Geyik, 2015). It has also been shown that Saudi Arabia undergraduate students do not frequently use ICT, in particular, computers to facilitate their learning (Alothman, Robertson, & Michaelson, 2017). McMillan and Morrison (2006) conclude that most undergraduate African students use the internet more to communicate socially than academic activities. The same authors argue that although the internet offers material that complements the traditional mode of study and research, a considerable number of students use it more to entertain themselves, than for learning and research. Notwithstanding, in general, it could then be said that the findings of this current work support evidence which showed that students adopt internet for academic purposes (Agarwal & Dave, 2009; Asemi, 2005).

Furthermore, the findings of this study showed that 62.8% strongly agreed that the use of internet has improved their research and learning. This claim is also supported 34.2% who agreed that the use of internet has improved their research and learning. On the contrary, a very little number 5.7% of the participants strongly disagreed that the internet has improved their research and learning. Additionally, 5.7% also disagreed that the internet has improved their research and learning. Additionally, most of students 57.1% believe that the use of internet eases research and learning which implies that it simplifies research and learning. This ranking is followed by 17.1% of the participants who remarked that the use of internet improves the quality of research, 8.6% agreed that the internet provides prior and recent valuable literature, this is supported by 5.7% who asserted that the internet provides easy retrieval of credible information. While 11.4% remained undecided. Further finding demonstrated how the internet, improved the students' academic research and learning, Thus, 42,.9% of the participants' stated that the internet usage has assisted them to undertake substantive and scientific project/research ahead of time, 22.9% of the respondents claimed that the use of the internet helps them prepare better for examination, while 17.1% alleged that the use of internet has helped them attain wider understanding and knowledge on what is taught in their classroom. 7.5% of the respondents' stated that the use of the internet helps them prepare better for class presentation, 11.4% had no response to the question.

In general, the findings of this work support evidence which show that the internet use has a positive benefit on educational development and growth most especially as regards research and learning (Chen & Fu, 2009). Shehu, Urhefe and Promise (2015) reiterated that the factors motivating students to use the internet for academic activities are that the internet contains more information, it is more convenient and easier to use, hence its usefulness can never be overemphasized. The findings also support prior studies which establish that internet use betters the quality of students work, economizes time, speeds their project writing and recent materials can be recovered easily (Ilo & Ifijeh, 2010). Consistent with this view, Sivaraj and Esmail (2007) showed that the student of the Bannari Amman institute of technology use the internet for searching pertinent information, and this in turn provided an extensive knowledge that ameliorates their learning and research activities. Similarly, Papanis, Giavrimis, and Papani (2010) study on Universities in Greek found that the use of internet enhances the learning procedure in terms of improving academic performance, advancing research knowledge, critical thinking, promotes self and collective learning, encourages the motivation to study, develops self-confidence as well as improve the overall teaching methods. The same study concludes that the internet eases information retrieval and provides knowledge more often and beneficial than the one offered in the conventional teaching in turn complimenting formal learning.

In the third objectives of this study, the researchers inquired from the student to state the search engines mostly used. Results establish that most of the participants 43% said they prefer and use Google search engine frequently, 23% of the sampled students alleged that they prefer to make use Google scholar search engine, whereas 17% prefer to use Yahoo search engine, 11% said they prefer Bing search engine and only 6% stated that they prefer and frequently use Ask.com search engine. It is clear that the students use various search engines but Google and Google Scholar search engine is the most preferred and used among them. This result is similar to a study conducted among students in Pakistan, which reported that the students

predominantly made use of Google and Yahoo search engine for research and emailing activities respectively (Bashir et al., 2008). In the same way, Agarwal and Dave (2009) also observed that the majority of the students of the Central Arid Zone institute who accessed and used the internet for educational and research purposes mainly used Google and Yahoo. Ilo and Ifijeh (2010) research likewise found that most of the sampled students in Nigeria make use of search engines such as Google, Yahoo and MSN more frequent than any other search engines available.

In the research question four, the students were asked the challenges they encountered with regards to the access and usage of internet for research and learning. Results show that a large proportion of the students 80% said they have challenges as regards to the access and usage of internet in their academic environment. Some of the students observed that they come across substantial and relevant scientific papers online but could not gain access to them, due to lack of subscription to scientific databases by their institutions. The students noted that most scientific papers cost from $15 upward and this often restrict their access to scientific journals, as well as affecting their quality of research. The students also believed that the irregularity of power supply in their University premises, dormitory and homes, discourages internet accessibility for academic purposes, as sometimes they run out of power/battery on their mobile and Laptop devices. This submission means there is insufficient digital readiness among the sampled institution. This findings is similar to the one found by Apuke and Iyendo (2018) which found that university students in North eastern Nigeria perceived that the lack of digital readiness among their staff and institution, the absence of electronic library for easy accessibility to journals from the scientific database, and inefficient cybercafe and internet facility within their university settings were the main issues discouraging the utilization of the internet within their institutions.

However, these findings are contrary with a study carried on the Medical Sciences students at the University of Isfahan, Iran, which showed that the entire students frequently made use the internet because it was readily made available to them by their institution and the students were able to retrieve and use scientific information for their research and learning because the institution's library provided access to numerous scientific database and online journals (Asemi, 2005). In addition, Madhusudhan (2007) concludes that students of the University of Delhi were provided free internet services and a considerable amount of this student used it daily for academic reasons. Thus, the use of internet technologies such as email, search engines and scientific database should be encouraged among students so as to improve their academic research, learning and productivity at large (Allassani & Aziale, 2017).

As opined by the respondents in this current research, compared to the higher institution in developed countries; their institution needs an electronic library, where they can easily access scientific journals from databases. They believed that this will lessen the reliance on Google, Google Scholar and open access journals as well as will provide a means to explore other related scientific papers, in order to elevate their academic learning and research beyond its current situation.

5. Conclusion and Recommendations

5.1 Conclusion

The outcome of this study demonstrates how Taraba State University students make use of the internet for the sake of research and learning. Overall, it can be inferred that the usage of internet supports the students in undertaken research on time, it also helped them get better prepared for class presentation, allows them compare different materials that support their homework and class assignments, inspires their self and peer learning, helps them attain wider understanding and knowledge of what is taught in class, assists them carry out substantive and scientific project/research ahead of time as well as aid them prepare for examination. Additionally, it has been shown that Taraba State University students are exposed to internet facilities mostly through their mobile phones. Additionally, their institutions do not provide adequate internet facilities. The issue of slow and inconsistent internet connectivity sometimes discourages their frequent access and usage.

The study concluded that the internet is veritable tool for enhancing academic research and performance. It is, however, concluded that students make adequate usage of the internet for their academic activities despite the fact that students used their mobile phones and cafes to obtain academic materials. The use of internet also enhances the learning procedure in terms of improving academic performance, advancing research knowledge, critical thinking, promotes self and collective learning, encourages the motivation to study, develops self-confidence as well as improve the overall teaching methods. The same study concludes that the internet eases information retrieval and provides knowledge more often and beneficial than the one offered in the conventional teaching in turn complimenting formal learning.

It is clear that the students use various search engines but Google and Google Scholar search engine is the most preferred and used among them. The reasons for using these databases according to the students' is that it hosts credible, scholarly information that is carefully organized and easily accessible and most of the ISI web of knowledge papers are found in it.

5.2 Recommendations

This study revealed that the students seem to do well with the help of their smartphone, as well as a laptop and modem to access the internet facilities such as email, internet search engines (Google and Google Scholar) and communication platforms, despite the inefficient provision of internet facilities on their campuses. Yet, there are challenges raised by the students that require attention. Thus, this study proposes the following suggestions to improve internet access and usage for educational research and learning in the studied area.

➤ Tertiary institutions most especially TSU should build efficient cybercafe as well as provide internet facility within their premises and subscribe electronic scientific database. This will enable more access beyond the use of smartphones as well as the use of open access resources such as e-journals, e-conferences, e-thesis and dissertation

➢ The sampled institution needs an electronic library where the students can easily access scientific journals from databases such as Elsevier, Springer, Taylor and Francis, Wiley, and Emerald. This will lessen the reliance on Google and Google Scholar as well as provide the means to explore other related scientific papers which will improve their academic research and learning.

➢ Network providers such as MTN, Globacom, Etisalat Telecommunications Company and their collaborators should make it a priority to improve their network as well as reduce their tariff to enable students' purchase data at an affordable price. This will encourage the faster and easier download of research materials.

➢ The irregularity of power supply in the sampled University premises should be improved to encourage internet accessibility for academic purposes. This will reduce the running out of power/battery on the students mobile and Laptop devices, which often interrupt their use of the internet. When this is resolved, it will improve their academic research and learning at large.

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