# Impact of Internet Use on Student's Learning Outcomes in Biology

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## Review Article

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## ABSTRACT

This paper attempts to review various impacts the usage of the internet would have on student's learning outcomes in Biology, the paper includes research objectives such as finding out the attitude of students in accessing biology information from the internet, the perception of students' uses of internet for learning purpose, discovering how relevant is the obtained information students, got from the internet is to their academics. The paper reviewed several previous works from scholars on different concepts revolving around the research study including; the internet, impact of internet service on academic activities, frequency of internet use by students, internet usage and learning outcomes, and challenges encountered in the use of internet facilities. The sample for this study is made up of 100 students that would be given questionnaires to answer to find out the impact of internet use on students learning outcomes. The 100 students would be partitioned and gender-biased this is to cater to the gender-based research questions. The study has to do with inferential statistics. Inferential statistics is aimed at summarizing the properties of a population from the known properties of the sample of the population. Simple frequency, mean scores, and the percentage would be used for analysing the data because they will explain the phenomena under study.

# INTRODUCTION

## Background of the study

The internet can be envisioned as a rich, multi-layered complex ever-changing text for information dissemination and a medium for collaborative engagement between persons and computers that is not limited by geographical geography. Today, the internet is a global entity whose nature cannot be easily or simply defined. Many people think of the internet as a big computer network that connects millions of smaller machines at diverse sites across the world belonging to thousands of businesses, governments, research, educational, and other organizations. To internet users, the internet is a worldwide community with vibrant social life. According to the June 22 issue of the awake magazine, the internet originated as "a 1960s effort by the US Department of Defense to let scientists and researchers from geographically scattered regions work together by sharing scarce and expensive computers and files." This needed the development of a network of interconnected networks that would function as a coordinated whole." According to Ibegwam, the internet "is a massive computer network made up of many individual computers called servers," which began in 1969 under a contract from the Advanced Research Project Agency (ARPA). According to Awake magazine (1997), the internet arose from a need for a "bombproof" network during the Cold War era, such that even if a portion of the network was destroyed, data would still be able to reach its destination with the help of the other sections. According to Ibegwam, "the internet was created in parts to provide a communication network that would work even if some sites were destroyed by a nuclear strike." The internet seems to be a relatively new medium for scholarly materials, containing large amounts of information that vary greatly in terms of content, aim, target, group, and dependability. As a result, it is critical that the end-user is aware of the various information sources available on the web and educated on the criteria for accessing information material. The World Wide Web is one of the most valuable tools in today's IT world, not only for businesses but also for academic purposes, since it improves students' skills and talents, assisting them in their studies and professional lives. Students use the internet as a research tool for a variety of subjects of study. This may be observed in how students use the web for schoolwork, presentations, research projects, and exams.

Biology is nothing but knowledge so obtained by observation, reading, experimentation, and realization. Knowledge so obtained is systematic and channelized. A careful analysis of the history of the progress of biology reveals that theory and experiment form the foundation of the growth and development of biology. But as society has evolved, so also the learning of biology, especially with the influence of the internet.

The internet is currently one of the most effective instances of the benefits of long-term investment in research and the development of information systems. People use the internet as a vital source of knowledge for projects and homework. With over 50 million websites on the internet, it is likely that knowledge on any topic, no matter how obscure, may be accessed using adequate search engines. The internet offers tremendous opportunities for education at all levels because teaching methods can be developed collaboratively, and learning materials can be distributed and updated more cheaply, providing extra ways for students to engage with their learning resources as well as their instructors. Another significance of the World Wide Web is that it enables students (across the world, but especially in poor countries) to access a big pool of data, which could help minimize the information gap caused by the disadvantages of educational possibilities. The University library plays a role in providing a wide variety of information sources through the facilitation of internet access. The library's resources must be linked to one

another and even inside the library environment, and academic libraries must complement their users' learning and research practices. The internet can enable access to virtually limitless amounts of information that are not normally available through traditional channels. The internet has eliminated geographical obstacles to communication access. It is quick and dependable, with no limits on material or format. It also contains an endless number of features that allow users to access nearly infinite amounts of information on the internet. Furthermore, it provides global access to the most recent research findings and expertise. As a result, it has become an essential component of digital services in educational institutions. As a result, the internet has become an amazing resource for learning, teaching, and inquiry (including collaborative research).

## LITERATURE REVIEW

Before the use of ICT for information collection, processing, and distribution, university teaching, learning, and research were limited to resources available through inter-leading or the student's dominant institution's library. According to Akintunde, as mentioned in Anunobi, any attempt at meaningful academic communication can only be accomplished with the use of ICT, which provides information in real-time and location. It's no surprise that young people, particularly students and researchers, spend the majority of their time online. Where the latter is not provided in the university environment, people must go a greater distance to do one or more transactions on the internet; however, things have become easier with the growth of mobile phones.

## Statement of the problem

Biology is a very comprehensive course, extremely detailed and wide, even in secondary schools, its syllabus is quite voluminous and most of the time are uncompleted by the teachers in school, also in the higher institutions, biology as a subject metamorphosed into various branches such as botany, zoology, genetics, fisheries, microbiology, biochemistry and so much more, although biology seems to have a voluminous nature, no biological content can be put to waste as every information about life is important, therefore due to its voluminous nature, biology contents cannot be fully covered or comprehensively taught in the allotted time, thereby, reducing the students learning outcome, hence this research addresses the impact to which the use of internet services affects students learning outcome in biology.

## Purpose of the study

The main purpose of this study is to find out the impact of the use of internet services and how it affects students' learning outcomes in biology, and how it can address the problem of voluminous biological information students have to acquire. Specifically, the aims of the study are gender-biased hence, it's

1. To find out the attitude of students in accessing biology information from the internet.

2. To find out the perception of students' use of the internet for learning purposes.

3. To discover how relevant the obtained information students, got from the internet is to their academics.

## Research questions

The following research questions have been formulated to achieve the objectives of this study.

1. What are the attitudes of students in accessing biology information from the internet?

2. What are the perceptions of students' use of the internet for learning purposes?

3. How relevant is the obtained information, students got from the internet to their academics?

## Significance of the study

The study could be beneficial for students as well as for the institution. The valuable feedback gotten from respondents should help students to realize the benefits of the internet in their education, especially learning outcomes. Institutes can invest more in internet facilities to enhance the academic performance and learning outcomes of their student and produce better results. Note that the relevance of internet facilities is measured by how effective, sufficient and accessible it is to students and users. The research will also provide in-depth insight into the various internet facilities and how students can be able to use them to improve their academic performance.

## Scope and delimitation of the study

The self-report criterion is a limitation. Future research should employ more objective measures of internet use. This study covers all regular undergraduate students at the University of Lagos, studying biology-related courses these are 100-400 levels students including 500 levels of marine science and fisheries. The study, therefore, excludes Centers for Distance Learning and Continuing Education (CDL and CE) students and sandwich students. Also, the study is not restricted to any gender. It includes both males and females, and undergraduates at levels of study.

This chapter's goal is to examine significant works done by other academics, researchers, and educators that are pertinent to this topic.

Biology is a broad topic with many sections and concepts; its value to society is generally understood and cannot be overstated. However, due to recent changes in the world today, particularly the internet, which stated that the internet is a rich, multi-layered, complex, and ever-changing environment of the text, many aspects of the world have been made easier [1]. Currently, curriculum experts around the world, including Nigeria, have been attempting to integrate the use of the internet into the teaching and learning of subject contents in schools.

This chapter of the study will review relevant literature on the study under research. The review of literature will be done under the following sub-headings;

1.     The internet
2.     Impact of internet service on academic activities
3.     Frequency of internet use by students
4.     Internet usage and learning outcomes
5.     Challenges encountered in the use of internet facilities
6.     Summary

## The internet

The internet is a fundamental technology in the evolution of information technology. Now, the Internet has become an essential instrument for information systems, information gathering, communication, research, and learning in today's knowledge-based society. The Internet has made a borderless world a reality. Any use of internet technology would make it simpler for individuals to receive a variety of information, including the most up-to-date information, in a timely and effective manner. The Internet is beneficial to the globe, particularly to students. A wide range of

modern technologies developed and employed throughout the globalization period. Similarly, the global adoption of Internet technologies is increasing. The Internet, also known as a worldwide system of computer networks and information transportation infrastructure, has become an extremely significant instrument and is now required by the knowledge-based society for information management, information gathering, communication, research, and learning. It is based on, who stated that the internet is a rich, multi-layered, complicated, and ever-changing text environment [2]. The Internet was first hailed for its capabilities and complexity when it first appeared in the 1990s. The Internet, which began as a means for communication, has now evolved into a tool for social engagement, education, commerce, and a variety of other roles and functions. Previously, the Internet was only utilized by experts in the field of information technology and Internet-based technologies. According to the author, the internet gives a broad variety of handy opportunities to expand and grow one's life [3]. This is because the internet has allowed for the unrestricted sharing of knowledge and allows individuals to collaborate and connect with computers all around the world, regardless of time or location. According to Wells, the internet is a computer-mediated communication tool that provides individuals with access to a wide range of information and unique communication methods. The internet is a global system of interconnected computer networks that service billions of people worldwide by utilizing the standard internet protocol suite. It is a collection of networks composed of millions of personal, public, institutional, commercial, and government networks ranging in size from local to global in scale and linked by a diverse set of electrical, wireless, and optical communication systems.

 The internet transports a large array of resources and services, such as the World Wide Web's (WWW) inter-linked hypertext pages and the architecture to enable electronic mail. Madu and Adeniran pointed out that the internet grew out of a US Department of Defense effort during the cold war years. To be more specific, the internet began in 1969 with a contract from the Advanced Research Project Agency (ARPA) whose main goal was to connect significant computers at colleges in the South Western United States. The internet's origins may be traced back to 1960s research commissioned by the US government in partnership with private business interests to construct resilient, fault-tolerant, and dispersed networks. The National Science Foundation's (NSF) discovery of a new US backbone in the 1980s, as well as private support for other commercial backbones, resulted in international involvement in the management of network infrastructure technologies and the integration of several networks. The marketing of what had become a worldwide network by the 1960s culminated in its rising popularity and absorption into almost every area of modern human existence. The internet has no centrally controlled governance in terms of technological execution or regulations for access and usage; each component network establishes its standards; only the broad definitions of the internet's two primary namespaces, the internet protocol address space, and the hostname, are directed by a maintainer organization, i.e. the Internet Co-operation for Assigned Names and Numbers (ICAN). The Internet Engineering Task Force (IETF) is a non-profit institution with loosely associated international membership in which anybody can participate by giving technical skills. Thus according to Ani, the internet is a global network of connected computers placed at various places throughout the world that allows for simple communication between people and organizations regardless of their location. The internet is largely used to get information. Researchers may produce and access numerous articles around the country over the internet, sometimes from their home computers, once linked to the internet. The internet's main functional value arises from its desire to share knowledge with others so everyone benefits. We would like to thank all staff nurses who have a critical role in caring these patients.

## Impact of internet service on academic activities

At the moment, the Internet is a highly significant instrument utilized by students for education as well as other reasons such as leisure. Many research and academic organizations offer internet access to students, lecturers, and researchers. Students are increasingly using the internet to gather information for their schoolwork. As a result, the internet has grown in popularity among students. The internet also improves students' talents and capacities, which can help them in their education and careers. As a result, there is a need to learn a lot about the internet to investigate the relationships with other factors in learning environments that are important to students. Internet access should be made available to both students and instructors to enhance research, teaching, and communication. Students also heavily rely on the internet to supplement their academic work. However, little study has been conducted to examine any use of the internet by university students from other fields, the aim and impact of accessing the internet, and general attitudes toward the internet. The presence of the internet in education offers access to a wide range of worldwide resources. On the internet, resources can be properly arranged, allowing for quick information access and interchange. Students and instructors alike utilize the internet because someone else has done the legwork of locating the material for them. There are four primary categories of internet activity for students, according to Ebersole. These include:

i) A website that delivers papers or groups of materials for informative reasons. Other sorts of information collecting services, such as commercial information services concerning research businesses, are available on the internet. Thousands of libraries are also connected to the internet, allowing even casual users to browse catalogs and request loans *via* inter-library lending services. Aside from such digital resources, the amount of internet journals, newspapers, and trade periodicals grows month after month. Although much of the content in these magazines are free, some are exclusively available to paying subscribers.

ii) E-mail is simply the act of sending and receiving messages through the computer. It blends the telephone's immediacy with the computer's global processing capacity. Learners use e-mail to communicate with friends and family and to collaborate on a task with someone thousands of miles away. E-mail is a low-cost mode of communication, with no volume or long-distance surcharges, unlike telephone or conventional postal services.

iii) Chat rooms are online services that allow students to chat with one another while on the computer, typing messages to one another.

iv) An electronic message board is a newsgroup. The media outlet is an example of how the internet may help students acquire a worldwide perspective. He goes on to say that this promotes teamwork, good communication, and socioeconomic and cultural action ethics.

The use of technology in education, particularly the use of mass media, has a long history. Using books, images, radio, and television as the primary instruments of technology, students all around the world have been able to increase the quality of their education. In the history of environmental education, the usage of the Internet, particularly the World Wide Web (WWW), is a relatively new trend. However, because of the fast growth of communication and Information Technologies (ICT) across all industries in recent years, the impact of using this medium is quite substantial.

Everyone benefits from being exposed to new technology. It also discusses the advantages that students may obtain from the advancement of the internet as a learning medium. Students may acquaint themselves with the internet by using it, which can be appropriate for those who wish to take a chance. The majority of students used digital media as a source of knowledge, a primary source of current events, and a platform for exchanging information with others, often through social media platforms. As a result, using the internet allows students too

swiftly and conveniently accesses the knowledge they want. This facility will encourage pupils to seek information more frequently. As a result, students' presence on the internet will have an impact on their academic achievement. However, if Internet use is not adequately regulated, it might have a detrimental influence on kids' academic performance. However, if a student can better regulate his or her Internet usage, it will have a good impact on his or her academic achievement. The internet's role in enhancing student academic attainment will be considered since it allows students to access e-books, search for information quickly, and aid them in completing tasks. Academic performance or accomplishments are the outcomes of a study to assess how far a student, instructor, or institution has accomplished their educational goals [4]. This illustrates how Internet tools and services assisted students in improving their learning, searching for information to fulfill their work, and other activities.

Use of the Internet as Educational Materials; quantitative studies have indicated that instructors and research researchers use the internet to help their research and teaching [5]. The internet has had a good influence on their academic achievement, particularly in terms of writing research papers, which helps them conduct better research and provides better educational experiences. Furthermore, according to, the more time spent on the internet, the more hooked a pupil becomes [6].

Students' widespread usage of social media technology can have a beneficial influence on them and be a crucial element in them getting a summative grade and leaving the course early [7]. Additionally, according to, students' usage of Facebook harms their academic achievement. Male pupils are more affected by these negative impacts [8]. This is supported by the fact that male students are much more engaged and spend more time on Facebook, making it difficult for them to concentrate on their studies. Furthermore, according to, many students who have an outgoing nature use Facebook, which might contribute to low academic accomplishment [9]. It appears that a person's personality influences whether or not academic success may be attained while utilizing Facebook. According to, the study's goal was to look at the impact of students' usage of Facebook on their academic performance *via* personality, self-control, and confidence [10]. According to the conclusions of this study, students who use Facebook frequently would have worse academic accomplishments. Researchers contend that the authors' objective, findings, and model are all relevant to the current study and may be applied to it in a new context.

Teaching with online media is an attempt to improve or increase the quality of the teaching and learning process. Furthermore, internet media has the benefit of being able to incorporate a range of material, including text, photos, animations, video, and sound. Watching news online and seeing videos relevant to subjects are examples of media online for education, whereas content online for non- education is amusement, such as playing a video game online. If viewed, online content is interactivity in which the consumer does not get or communicate in a single method, but instead can converse bilaterally to obtain information and do tasks. There are various reviews of prior research to learn more about internet media that are utilized for educational and non-educational purposes.

According to research, internet media has a detrimental impact on kids [11]. This is based on the studies carried out by the researcher on online video games, which are a sort of non-educational internet media that has a detrimental impact on academic attainment. Furthermore, according to a study by, the fall in college students' academic accomplishment is attributed to the usage of synchronous communication, such as chat rooms, which can drive pupils to stay up so late and lower their academic achievement [12]. As a result, online content consumption has an impact on academic achievement. The student's academic performance is negatively affected by social media [13]. While demonstrates the facts regarding electronic media as an approved agent of socialization and recognize that it can educate the public and assist students in their courses better than any other [14].

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## Frequency of internet use by students

According to the Ebersole study, respondents provided the following grounds for using the internet: 5.2 percent for research and learning, 7% for communicating with others, 5% for access to information otherwise unavailable, 8% for finding something exciting/fun, 5% for finding something to do when bored, and 1% for sports and game information.

Students are the most regular internet users, according to another research based on a review of literature by Kumar and Kaur. They mostly used the internet for instructional rather than recreational purposes. At Kuvempu University, Bavakutty and Biradar, et al. did a study on online activity by students and faculty. According to the findings, 42.1 percent of students use the internet twice a week, while 31.25 percent of faculty members use it every day. The majority of the students and professors utilize the internet for study and teaching. Commercial establishments are the most popular venues to use the internet. The vast majority of people are happy with online sources and services. Laite polled 406 Shippensburg University graduate and undergraduate students. According to the report, 57.6% of students enrolled to use the internet 1-2 times per week, and 37.1 percent use it 1-2 times each day. 54.7 percent of undergraduate students used the internet once or twice a week, and 37.7% used it once or twice every day. E-mail was shown to be the most popular online service. Graduates and undergraduates in equal numbers 100% of the graduates and undergraduates used e-mail services. A study conducted by library science students on the effect of gender on online activity found that while there is no significant difference between male and female internet usage percentages, their online abilities can affect whether or not they find the internet beneficial [15]. The research examined the state of internet connectivity in Bangladesh, as well as the issues with it and the possibilities for internet commerce. Undergraduate Internet usage has also been studied abroad [16]. Shippensburg University in the United States conducted an internet usage study with 406 graduate and undergraduate students. The majority of graduate and undergraduate students utilized the internet 1-2 times each week, according to the research. The email was the most popular online service since all undergraduate and graduate students utilized it [17]. According to research conducted at Obafemi Awolowo University in Ile-Ife, Nigeria, a large percentage of undergraduate students utilize the internet. Students use cyber cafés as their access point and the university library has yet to provide an interlibrary loan. As a result of the investigation, the institution should provide more entry points for students [18]. Seton Hall University in the United States conducted an internet usage study. According to the study's findings, 40.2 percent of respondents accessed the Internet daily, 38.3 percent weekly, and 10.7 percent monthly. Approximately 10% of responders said they used the internet only seldom or never [19]. At the University of Malaysia, Sarawak, researchers investigated students' attitudes regarding using the internet for educational purposes. According to the findings, pupils had favorable attitudes toward studying *via* the internet. The pupils had very elementary online abilities and saw the internet as a beneficial tool for teach [20]. The research looked at the percentage of undergraduate students who had access to the internet and used electronic resources at three Nigerian universities. According to the findings, undergraduate students utilize the internet extensively. However, due to infrastructural issues, internet access at university libraries, departments, and computer labs was limited. The majority of respondents used cybercafés and private internet services. The survey also discovered that responders should be taught how to use the internet and networks [21]. Kuvempu University performed internet usage research with students and faculty members. According to the report, 42.1 percent of students and 31.25 percent of faculty use the internet twice a week. The majority of faculties and students utilize the internet for studying and teaching. The library has been selected as a preferred location for

utilizing the internet. The majority of students and professors are pleased with existing online services and resources [22]. In the United Arab Emirates, a study was conducted on web usage among university students. The study's goals were to investigate online socializing and attitudes regarding the internet. The study's findings revealed that the internet might play an important role in minimizing social exclusion and gender disparity [23]. Another research was undertaken at the University of Punjab in Lahore on internet activity among university students. The study's goal was to learn more about students' internet usage habits. The results revealed that the majority of students use the internet for research and academic objectives. They were labeled as first-time internet users. The university library, departments, and households were recognized as typical internet usage locations. Without any official instruction, the majority of students have learned to use the internet on their own or with the assistance of friends [24].

The University of Dares Salam conducted a study on internet usage among students. The findings of the survey revealed that the majority of students did not utilize the internet due to a shortage of computers, poor online skills, and sluggish computer speeds. The majority of pupils did not utilize the internet for academic purposes, according to the research. As a result, the study suggests that more computers be connected to the internet and that pupils be provided sufficient online training [25]. Another study looked into the purpose of internet usage and online learning. The study's findings revealed that the internet has become an integral component of college life, with 100 percent usage among students. The research also discovered that 36% of students spend 1-10 hours each week using the internet. Students mostly use the internet to send and receive an email, read newspapers, conduct research, chat, and download photographs. Because of their large share of online activities, pupils used to watch fewer television shows. Saving time and ease of work were the reasons for internet usage among university students [26].

## Internet usage and learning outcmes

Consequently, some academics have begun to investigate the relationship between Internet use and academic outcomes. For example, Landers and Lounsbury surveyed 117 American college students and found that increased Internet usage was inversely connected with work drive, resulting in worse grades. Similarly, Kirschner and Karpinski showed that Facebook usage was related to worse grade point averages in a sample of 219 American university students (GPAs). Kubey, Lavin, and Barrows showed that Internet use was associated with inferior academic success in a sample of 572 American university students. Stollak, Vandenberg, Burklund, and Weiss discovered that a student's GPA did not reflect their usage of social media sites like Facebook, Twitter, or YouTube, using a sampling of 2,100 American university students.

The advantages of internet use to the academic community are described by Chiwepa and Jagboro as "quick, global, and convenient access and exchange of information with experienced and expert in any field; easy dissemination of research findings, enhanced collaborative research and other activities, ability to use some software and expand one's competences." According to Kuh and Hu, utilizing the internet has a substantial correlation with total student participation. In a survey of "best-wired campuses" (institutions that have made data-driven decisions), students reported somewhat more frequent interaction with instructors and participated in more active learning activities than their counterparts at less connected campuses. The findings revealed a favorable relationship between information technology and participation in successful educational methods. Laird and Kuh discovered a significantly positive correlation between using the internet for instructional methods such as active collaborative student learning and academic faculty interaction in the study of data from the National Survey of

Students' Engagement (NSSE) at Indiana University Bloomington. Students' options for different sorts of involvement expanded as they accessed the internet.

In their study on the influence of the internet on research, Adegboji and Toyo found that obtaining resources from the internet made research easier. Researchers and students at institutions of higher learning are frequently regarded to be dealing with a lack of suitable and up-to-date materials. Research is one approach to exploring knowledge, and the internet is showing a significant influence on the research process and information transmission. Because all institutions were adequately equipped with internet access, Asani demonstrated that all respondents used the internet often. It was discovered that the university's researchers were using the internet to obtain high-quality material. Even though the university library provides all students and employees with access to numerous databases and online publications, 55% of respondents used the internet to find scientific material. Anasi looked at how undergraduates at the University of Lagos' major campus in Akoka, Lagos, used the internet. Even though internet use was minimal among undergraduates from both the law and education faculties, she observed that internet users had a significant influence on students' academic and career-related actions. Researchers exploited the Internet's presence in higher education to communicate and exchange project data. When used effectively, the internet may assist undergraduate researchers in accessing a great number of materials from all over the world. With its introduction, professors and students can collaborate without physically interacting with one another to achieve the same goal as traditional higher education learning. Since the internet has made teaching, learning, and research easier, lecturers communicate ideas and communicate efficiently. According to Awoleye, Siyanbola, and Oladapo, the internet is utilized for information development, easier communication, better learning outcomes, used as a research instrument, offers assignment solutions, provides entertainment and education material, and is a source of scholarship.

## Challenges encountered in the use of internet facilities

Bac observed that students receive so little instruction in the use of ICT facilities, that where the internet is available in an institution, very little time is scheduled for students to use it, whereas Chifewepa identified a lack of supervision, inability to use, and inadequate internet facilities as difficulties related with the use of Internet facilities.

Ibrahim attempted to assess the usage and perspective of electronic resources by UAEU faculty members in his study titled "use and user perception of electronic resources in the United Arab Emirates University (UAEU)." He discovered that regular use of electronic information resources was limited owing to a lack of time to devote to teaching, a lack of understanding of the library's electronic resource inadequate communication channels, and language difficulties. Faculty members were handed a stratified random sample questionnaire. Self-administered questionnaires were used. There were also e- mails and phone calls. A 25% sample was taken from each department. Mashra, Yadav, and Bisht undertook a study to determine the internet usage patterns of GB Pant University of Science and Technology, Pantnagar undergraduate students. The majority of respondents, 83.1 percent of men and 61.3 percent of women, stated that their internet connection was sluggish. The internet has altered the way people throughout the world get and use information [27-29]. According to Jagboro research, 38.24 percentand 22.06 percent of university students use the internet on a monthly and daily basis, respectively. Furthermore, 11.76 percent of users use the internet on a regular or bi-monthly basis. Many people (39.7%) have one hour of surfing time, down from 25% for 30 minutes to 5.88 percent forfour hours. Despite the high usage, he noticed that Obafemi Awolowo University students use the internet infrequently.

In his research, Ibegwam noticed that many students at the University Of Lagos College Of Medicine were not utilizing the internet. There are issues with internet technology, such as server slowness or failure, which Ibegwam described as frequent disconnection owing to inadequate phone connections. Low utilization is due to a lack of advice, incapacity to utilize, and poor internet facilities, according to Chifwepa. According to Chifwepa, 8.6% of respondents viewed traveling a considerable distance to acquire internet services to be a concern, while Jagboro highlighted that students spent a considerable amount of money at cybercafé facilities. According to Nwokedi, a lack of search abilities is still a barrier to internet use. Despite the numerous challenges that undergraduate students face when using internet facilities, it is clear that doing so will improve their academic performance in their various fields. As a result, they must overcome these obstacles and take advantage of the numerous opportunities provided by these technological resources to enhance their intellectual prowess and liberate themselves from educational, intellectual, and knowledge literacy.

## DISCUSSION

Ibegwam claims that the internet has altered communication worldwide in the recent decade. It is the world's biggest computer network, a collection of networks across the globe. The internet is unique in that it is the cheapest and fastest way to get, distribute, and gather information. According to Jensen the internet has risen significantly throughout Africa in recent years. According to Jagboro, 38.24 percent and 22.06 percent of university students use the internet on a weekly or daily basis, respectively, while 11.76 percent use it monthly or bi-monthly. Similarly, Lumande and Mutshewa found that 42.6 percent of their respondents said they use the internet frequently. According to Ibegwam students' internet use will increase if universities implement Internet training, give free Internet services, employ VSAT to improve connection, and expand the number of workstations linked to the Internet.

## CONCLUSION

Academic libraries are often developed to accomplish the three-fold goals of teaching, researching, and community work. The library is the principal source of printed, non-printed, and electronic information for its diverse clients. Before the introduction of digital, virtual, and interactive libraries, the poorest nations like Nigeria relied on books from traditional libraries as their primary source of knowledge. With the recent boom of information, the internet has transformed how current and future library users obtain and use information. According to Daly (2000), the internet is expanding at a pace of 10.15 per month, with global internet users increasing from around 56 million in 1995 to almost 200 million in 1999. It's no surprise that most higher institutions' libraries are already connected to the internet, allowing their patrons to receive any information they need quickly and easily. Users may speak with colleagues and acquire material needed to boost their academic pursuits thanks to the installation of internet facilities in libraries. That is to say, any individual or student who wishes to excel in his or her scholastic pursuit may find the internet useful in searching for and obtaining crucial information for that purpose. As a result, if students are to attain the aims for which they are in the institution, material sourcing and use *via* the internet in university libraries is a must.

## REFERENCES

1. Ojedokun AA, et al. Internet Access and Usage by students of University of Botswana. African J Libr Arch Inf Sci. 2001; 1:97-107.

2. Ibegwam A, et al. Internet communication: E-mail and medical libraries. Dirisueds Information Science and Technology for Libraries Schools in Africa. Evi-Coleman Publication. 2002.

3. Ibrahim AM, et al. Use and User Perception of Electronic Resources in United Arab Emirates University. Libri. 2004; 54:18-29. [Crossref] [Google scholar]

4. Baker BO, et al. Anytime, anyplace learning. Forum appl res public policy. 2000; 15:88-92.[Google scholar]

5. Anunobi CV, et al. Dynamics of Internet Usage: A case study of the Federal University of Technology, Owerri (FUTO), Nigeria. Rev Educ Res. 2006; 1:192-195. [Crossref] [Google scholar]

6. Madu EC, et al. Internet use in Library and information Centre. In Information Technology: Uses and Preservation of resources in Libraries and Information Centers. Int J Lib Inf Sci. 2005.

7. Oyedun GU, et al. Internet use in the Library of Federal University of Technology, Minna: A case study. Gateway Lib J. 2007; 10:23-32.

8. Byron I, et al. Communities and the Information Society: The role of the internet in higher education enterprise in M.D. Millirion, and C. Miles, Taking the big picture look at technology learning and community college. 2000; 4:317-331.

9. Ifeoma IP, et al. Impact of internet on final year student's research: A case study of Covenant University, Ota, Nigeria. Libr Philos Pract. 2010.

10. Wells.Walls JG, et al. effects of an online computer communication course, prior computer experience and Internet knowledge, and learning styles on students' Internet attitudes computer-mediated technologies and new educational challenges. J Ind Teach Educ. 2000; 37:22-53. [Google scholar]

11. Walker J, et al. New resource discovery mechanisms. The E–Resources Management Handbook London: UKSG. 2006; 3:78-89.

12. Robinson JW, et al. Internet use among African-American college students: An Exploratory study from ProQuest database. 2005.

13. Jagboro KO, et al. A study of Internet usage in Nigerian universities: A case study of ObafemiAwolowo University, Ille-ife, Nigeria. First Monday. Internet Res. 2003; 8:2-3. [Crossref] [Google scholar]

14. Jackson LA, et al. Internet attitudes and Internet use: Some surprising findings from the HomeNetToo project. Int J Hum Comput Stud. 2003; 59:355-382. [Crossref] [Google scholar]

15. Chapman L, et al. Russian roulette or Pandora's Box: Use of internet as a research tool. Paper presented at VALA 2002. 11th Biennial Conference and Exhibition, 6-8 Melbourne. Victoria Australia.

16. Kamja MA, et al. The changing role of resources in Nigeria: The internet as an alternative future to modernity. Libr Philos Pract. 2008. [Google scholar]

17. Shitta MBK, et al. The impact of information technology on vocational and technology education for self-reliance. Int J Voc Tech Educ. 2002; 1.

18. Komerik N, et al. Use of internet among dental students in Turkey. J Dent Educ. 2005; 64:470-475. [Crossref] [Google scholar]

19. Ani OE, et al. Evolution of virtual libraries in Nigeria: A myth or reality? J Inf Sci. 2005; 31:66-69. [Crossref] [Google scholar]

20. Awoleye OM, et al. Adoption asessment of internet usage amongst undergraduates in Nigeria universities: A case study approach. J Technol Manag Innov. 2008; 3:84-89. [Google scholar]

21. Osunade O, et al. Evalaution of internet browsing on tertiary student's academic performance. proceedings of the international science and technology conference (ISTC 2004), 1 and 2 December 2004 at Vanderbij park South Africa.

22. Akintunde S, et al. Say it again: We just took off. Nigerian libraries. 2002:36.

23. Ebersole S, et al. Uses and Gratifications of the Web among Students. J comput-mediat comm. 2000; 6:6-31. [Crossref] [Google scholar]

24. Anasi SI, et al. Internet use pattern of Undergraduate Students at the University of Lagos, Nigeria. Journal Dar Es Salaam Med. 2006; 8:1-13. [Crossref] [Google scholar]

25. Akinsola SO, et al. "Internet seeking behaviour of Nigerian Student: University of Ibadan as a case study", Proceedings of the Eight International Working Conference of IFIP WG 9.4, Enhancing human Resource Development through ICT, Abuja, Nigeria. May, 2005; 26-28.

26. Nwokedi VC, et al. Internet seeking behaviour of Nigerian Student: University of Ibadan as a case study. Gateway Lib J. 2007; 10:13-22.

27. Chifwepa V, et al. The use of the intranet and internet by teaching staff of the University of Zambia. Inf Sci. 2003; 13:119-132.[Google scholar]

28. Howe W, et al. An anecdotal history of the people and communities that brought about the Internet and the Web. Retrieved March 14, 2007.

29. Ifeoma IP, et al. Impact of internet on final year student's research: A case study of Covenant University, Ota, Nigeria. Libr Philos Pract. 2010. [Google scholar]