

## Internet Entertainment and Collaborative Learning as Correlates of Internet Use among Undergraduate Students in Enugu State, Nigeria

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### Abstract

This study examined internet entertainment and collaborative learning as correlates of internet use among undergraduate students in Enugu State, South East Nigeria. The study adopted correlation survey design and used two researcher developed questionnaires to collect data from a sample of 1,199 undergraduates in the federal and state universities in Enugu State. The instruments were face validated by experts in the University of Nigeria, Nsukka, while their internal consistency was established using Cronbach Alpha. The findings indicate that there is significant positive relationship between the aforementioned social factors and internet use among undergraduate students. Based on these findings, the study made some policy recommendations, among which are that parents, guardians, academic advisers and counsellors should continuously encourage students to use the internet moderately for entertainment purposes so that they can have time for their studies, while students should endeavour to exploit internet facilities to engage in collaborative learning with classmates, lecturers and other professionals in order to enhance their performance.

**Key words:** Internet entertainment; Collaborative learning, Internet use; Undergraduate students; Correlation survey

### 1. Introduction

Undergraduate students are university students that are still studying to earn their first degree (Oyeboade, 2017; Alabi, 2013). Such students widely use the internet for various purposes through their mobile phones, computers, personal digital assistants, games machines, digital televisions, and other electronic devices. For instance, undergraduate students can use the internet for entertainment purposes like playing games, listening to music, watching movies and other entertainment purposes, or for learning purposes like completing school work, carrying out research, or collaborating with schoolmates and lecturers. Apart from entertainment and learning, they can also use the internet to maintain their social networks by chatting with other people and sending and receiving emails, or for economic purposes like shopping for goods and services and perform numerous business transactions such as online banking, hotel and air ticket reservation, and job seeking and application (Alio & Aneke, 2015;

Adiele & Olatokun, 2014). Hence, the internet confers enormous entertainment, educational, social, and economic benefits on these students, and has thus become an indispensable part of their everyday life (Choi & DiNitto, 2013).

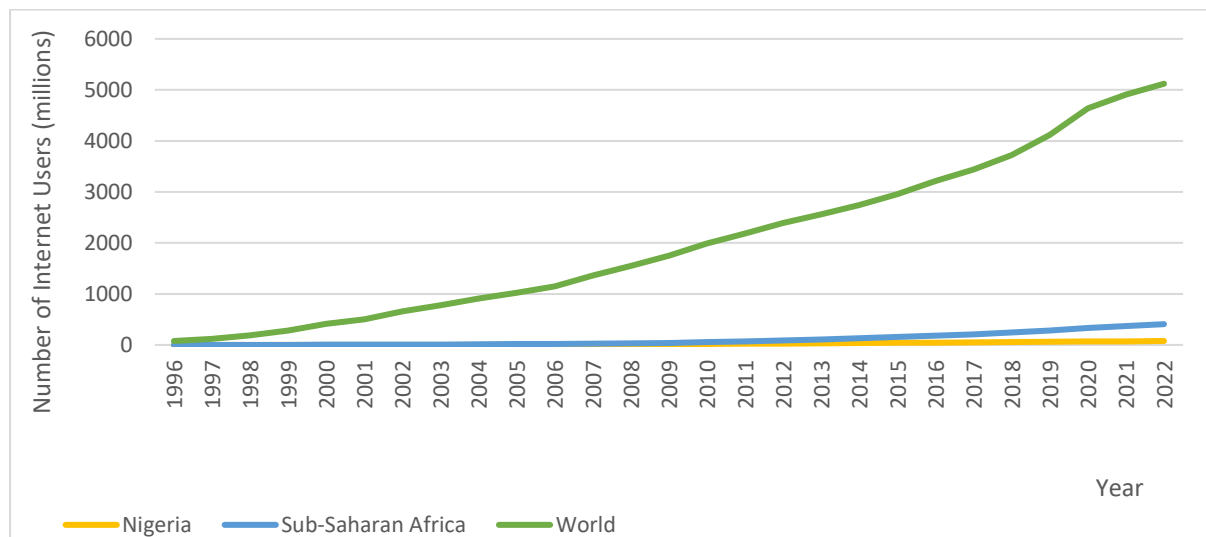
The foregoing paragraph indicates that internet entertainment is an important social factor that can predispose undergraduate students to the use of the internet. Indeed, studies like Pavel (2012) and Macarie, Ștefănescu, Tebeanu and Chele (2012) indicate that these students often use the internet for entertainment purposes, especially in playing computer games, watching videos or movies, playing music, and watching football matches and other sporting competitions. Currently on our campuses, it is quite common to see many undergraduate students who use earpiece to block their ears while playing music or watching video on the internet for long hours. Sometimes, they assemble in their hostels to stream live football matches online, especially when their favourite teams in the English Premier League are playing live matches. Some studies in the extant literature, such as Gross (2004) and Anderson (2001), have also shown that many of these students use the Internet more for entertainment purposes than for educational purposes. However, of more concern to the present study is how internet entertainment relates to undergraduate students' disposition to use the internet. Hence, internet entertainment is investigated in this study as an important social predictor of internet use among undergraduate students in Nigeria.

Another social factor that could predict internet use among undergraduate students is collaborative learning. Collaboration involves working together to create something new in support of a shared vision (Gilbert, 2016). A key point here is that collaboration requires joint, not individual effort. Hence, collaborative learning may be explained in terms of the teaching and learning approach which involves students working together in order to solve a problem or learn something together (Laal & Laal, 2012; Lai, 2011; Sharratt & Planche, 2016; Roselli, 2016; Le, Janssen & Wubbels, 2018). Roselli (2016) further explained that collaborative learning promotes exchange and participation of each member in order to build a shared cognition. An essential component of collaborative learning is interpersonal communication, especially through internet-based digital media that predisposes the students to staying on the internet for long hours. In the collaborative learning environment, email and online chatting platforms such as WhatsApp, Facebook and other internet-based groups are used by students to disseminate information among themselves and with their lecturers. This means that

collaborative learning may be an important correlate of internet use among undergraduate students.

Evidently, the entertainment and collaborative learning benefits of the internet technology to undergraduate students cannot be over stressed. Interestingly, Figure 1 shows that since the early 1990s when the population of internet users was almost negligible, this population has grown enormously not only in Nigeria but also across Sub-Saharan Africa and the World. Specifically, Figure 1 indicates that this population grew from 9800 people in 1996 to over 77 million people in 2022. In Sub-Saharan Africa, the population of internet users grew from 437 thousand people in 1996 to over 406 million people in 2022. Globally, internet users rose from 77 million people in 1996 to 5.12 billion people in 2022.

**Figure 1: Number of Internet Users in Nigeria, Sub-Saharan Africa and the World, 1996-2022**



**Source:** Authors, with data from World Bank (2024)

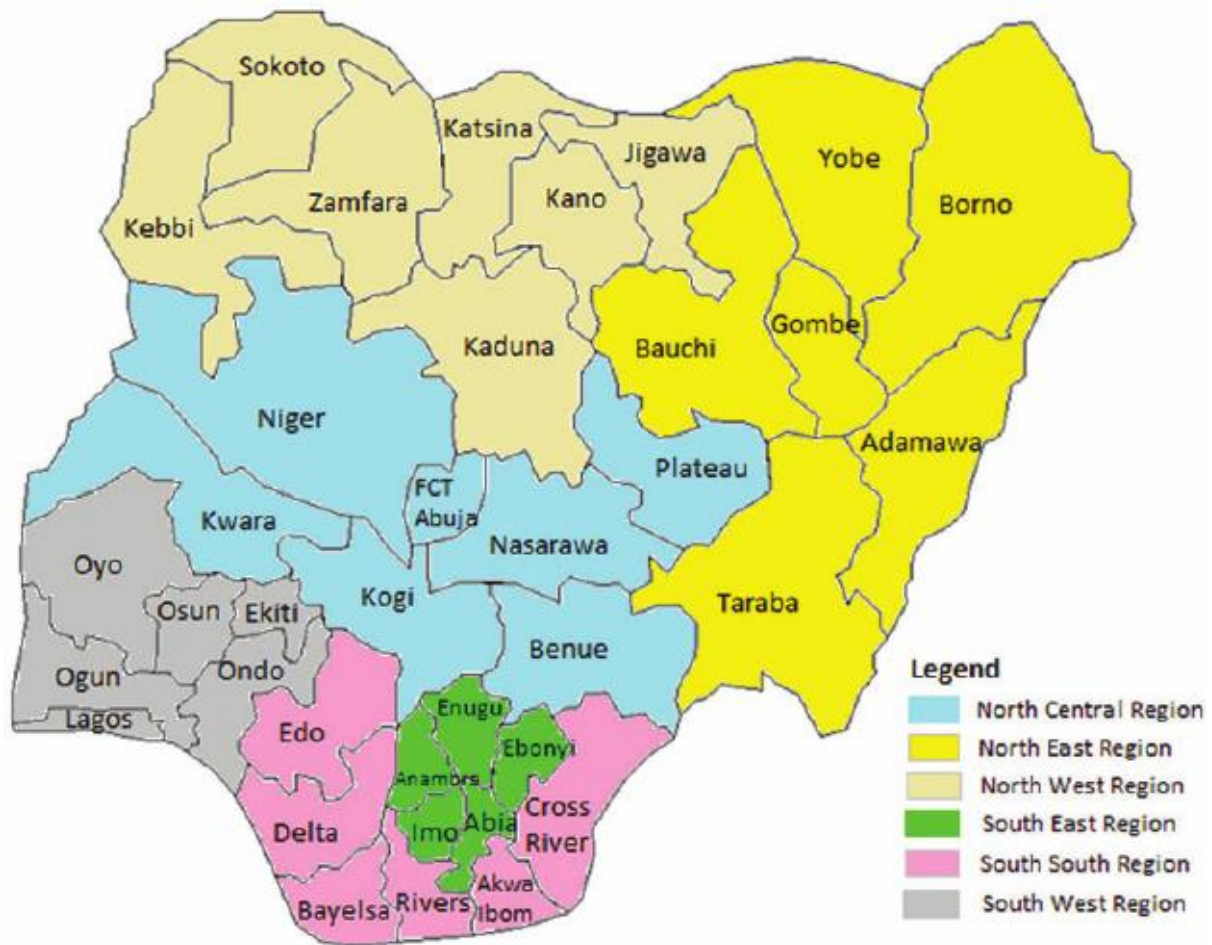
Nonetheless, uncontrolled, excessive and addicted internet use by these students could also have negative consequences on their educational, social, psychological, and moral development. For example, it is possible that many of these students spend invaluable time surfing the internet at the expense of their academic work. Some of these students also use their phones to engage in online chatting and streaming of entertainment materials like video skits during lecture periods instead of concentrating on their lectures. Some undergraduate students also come to school to snap pictures and make videos, which they share on various internet-based platforms like Facebook, Instagram, X (formerly Twitter), and WhatsApp. Worst still, many students currently use the internet to engage in antisocial and immoral activities such as pornography, fraud, hacking, gambling, and blackmail, thereby exposing themselves to internet

addiction and other criminal illegal activities. The so-called “Yahoo Business” or using the internet to perpetrate financial fraud has become a widespread endeavour among undergraduate students. Clearly, there is an urgent need to avoid the negative consequences of immoderate internet use by undergraduate students in Nigeria through evidence-based policies. However, the extant literature has not examined internet entertainment and collaborative learning as correlates of internet use among undergraduate students in Enugu State, Nigeria. Against this backdrop, this study investigated internet entertainment and collaborative learning as correlates of internet use among undergraduate students in federal and state universities in Enugu State, Nigeria.

## 2. Policy Context of the Study

Nigeria is Africa’s most populous country located in West Africa. According to Worldometer (2024), Nigeria has a population of 229.5 million people as of July 2024, thereby accounting for about half of the West African population. Nigeria occupies 923,770 square kilometers and shares borders with Niger in the north, Chad in the northeast, Cameroon in the east, and Benin in the west. Administratively, Nigeria has 36 states and a Federal Capital Territory, Abuja. The country can also be divided into six geo-political zones, namely: North East, North West, North Central, South East, South West, and South South zones as shown in Figure 2. This study was conducted in the federal and state universities in Enugu State, which is one of the five States located in South East Nigeria. Enugu State is home to a federal university known as University of Nigeria, Nsukka (henceforth UNN) and a state university known as Enugu State University of Science and Technology, Enugu (henceforth ESUT).

**Figure 2:** Map of Nigeria showing the 36 states, the federal capital territory and the six geo-political zones



**Source:** Adopted from Gayawan et al. (2014)

UNN has three campuses in Nsukka, Enugu, and Ituku-Ozalla. It is the first full-fledged indigenous and/or autonomous university in the whole of Nigeria, with undergraduate student population of twenty-eight thousand and forty-seven (28,047) as of 2016/2017 academic session. In keeping with its motto, which is 'to restore the dignity of man', and driven by the desire to create a smart university, UNN hosts Roar Nigeria Hub, which is one of the full-fledged university embedded information and communication technology (ICT) hub in West Africa. This initiative, together with other numerous innovations, such as the establishment of MTN Digital Library, distribution of laptops to undergraduate students, creation of wireless local area network within the campuses of the University, and creation of Staff Browsing Room at the UNN ICT Access Bank Building, ensures that both staff and students maintain easy and affordable access to the internet. For instance, course registration and checking of results by students are done online. In addition, end of semester examinations for courses with undergraduate student population of up to 250, especially first year and second year courses,

are administered using computer-based test procedure (Ogungbe, 2017; University of Nigeria Nsukka, 2011).

The state university, ESUT, has two campuses in Agbani (which is the permanent site of the University) and Enugu City. It is a foremost state university of science and technology in Nigeria, with student population of sixteen thousand, one hundred and five (16,105) as of 2016/2017 academic session. In line with its motto, which is 'technology for service', and propelled by the desire to become a leading ICT compliant university in Nigeria, the University has taken various steps to ensure that both staff and students take advantage of the internet in teaching, learning and research. In June 2016, the University organized Google Digital Skill Training Workshop for both staff and students. The University's library has a Virtual Library unit which allows users access to the internet. In addition, the Tertiary Education Trust Fund (TETFUND) has also undertaken several intervention projects in the areas of ICT resource provisioning, computerization of the University, and virtual library infrastructure. The University's ICT infrastructure presently ensures online payment of fees and upload of programs online, as well as continuous sale of admission forms online for graduate programs. These initiatives ensure that both staff and students maintain access to the internet easily and inexpensively (ESUT, 2014, 2016).

As shown in the foregoing paragraphs, UNN and ESUT offer their undergraduate students the enabling environment to access the internet easily and in more affordable ways. Apart from the facilities available in these universities, their undergraduate students also access the internet through their mobile phones, iPads, laptops, and other hand-held devices. Presently, almost all the undergraduate students in these universities maintain one form of social media presence or the other, and the most common social media platforms among them are Facebook, WhatsApp, Instagram, X (formerly Twitter), and Snapchat. Thus, the use of these internet-based media by these undergraduate students may be driven by social factors like internet entertainment and collaborative learning. Hence, this study is mainly aimed at investigating the interactions between these social factors and the internet use of undergraduates in Enugu State, Nigeria.

### **3. An Overview of the Extant Literature**

#### **3.1 Studies on the link between internet entertainment and internet use among students**

On the interaction between internet entertainment and internet use among students, Maison et al. (2024) explained that internet use has become widespread among students and therefore investigated the perceived impact of internet use on academic performance of students in Foso College of Education using a sample of 300 students that were randomly selected. The study found that students used the internet mostly for entertainment purposes while educational usage was considered after the entertainment usage. Danso et al. (2023) explained that the Internet offers various benefits to students by enhancing their access to a broader range of information, creating an avenue for social communication and conducting research. Thus, the study investigated the Internet usage of undergraduate students of the University of Education, Winneba using qualitative analysis. The findings showed that university students use the Internet to satisfy certain gratifications, and these include entertainment, academic research, news sharing, and socialization. The study also found that intensive use of the Internet can have adverse effect on students, which can manifest as decline in academic performance, social isolation, and financial constraints.

Sen, Pallathadka and Ngangbam (2024) documented a review article that assembled evidence on the use of the Internet as a leisure activity by college students by assessing its prevalence, positive and negative impacts, and the implications for student wellbeing and academic performance. The study reviewed thirty-seven research articles involving college students aged 18 to 25 years from various Indian and international colleges. Among others, the findings showed that playing games is the most popular Internet leisure activity among college students, followed by using Facebook and spending time to cope with multiple mental issues. Furthermore, the study highlighted that the Internet serves as a key tool for relaxation and entertainment, and that it also poses challenges, including addiction and mental health issues. Nwagwu, Adekannbi and Bello (2009) investigated the factors influencing use of the internet by university students and found, among others, that higher educational level is associated with less use of the internet for leisure and entertainment.

Anthony, Zhu and Nower (2021) observed that excessive internet use, particularly for entertainment, can hamper children's educational development. Hence, the study investigated the relationship of the amount of entertainment-related internet use and school engagement and performance using two-wave survey data collected from a nationally-representative sample of middle school students in China. The findings showed that almost 40% of children used internet for entertainment or non-school activities on school days, while 62% used it for entertainment or non-school activities during weekends. The study also used multilevel mixed models to show that excessive use of internet for entertainment or non-school activities was considerably

and adversely associated with lower test scores on Chinese, Math, English, and cognitive competencies, lower educational aspirations, and higher likelihoods of truancy, lacking concentration in class, and boredom at school after one year. Bankole and Adio (2018) investigated the pattern of internet usage among students and found that the main purposes of internet use were for entertainment, to complete class assignment and for communication. Abdurashed and Musa (2016) examined the extent of internet usage for educational purposes by Social and Management students in public universities and polytechnics in Adamawa state, and found that entertainment purpose ranked highest under the purposes of internet use followed by academic purpose.

Torres-Diaz, Duart, Gómez-Alvarado, Marín-Gutiérrez and Segarra-Faggion (2016) conducted a study on internet use and academic success of university students in Ecuador. The purpose of the study was to examine the influence of internet use on academic success of students from five universities in Ecuador between February and May 2015. Four research questions guided the study. The study adopted correlational survey research design, and questionnaire was used to collect data from a sample of 4,697 students that were randomly selected, of whom 48.5% were men and 51.5% were women. Multinomial logistic regression was used to analyze the data. The results revealed that students who perform interactive activities with peers and teachers or use different internet tools in a balanced way tend to have more academic success than those who only seek information. The results further showed that the use of internet in entertainment impacts positively on students' academic achievement; and that students who download audio, video and software, and students who use all the entertainment possibilities are less likely to fail than those using the internet minimally.

Acut, Carpo, Caparoso, Magsayo and Sombilon (2016) investigated the relationship between students' internet usage and academic performance in Philippines. The purpose of the study was to determine if the academic performance of undergraduate students at Mindanao State University-Iligan Institute of Technology, Philippines, is affected by their internet usage. Three research questions guided the study. The study adopted correlational survey research design, and used questionnaire to collect data from a sample of 386 undergraduate students that were randomly selected from a population consisting of all the 11,956 undergraduate students at Mindanao State University-Iligan Institute of Technology, Philippines. Descriptive statistics and correlation analysis were used to analyze the data. The results showed that there was no significant relationship between the respondents' academic performance and their internet use; however, there was a significant relationship between the respondents' academic performance and their usage of internet for academic purposes. The results further revealed that there was



no significant relationship between the respondents' academic performance and their purposes of using the internet such as for gaming, social networking, news, and entertainment.

Yılmaz (2012) explained that university students use the Internet for three key reasons, which are academic/learning purposes, communication, and entertainment, and that communication and entertainment purposes can be considered as attractive activities that cause intensive and long usage of the Internet by the students. Hence, the study investigated the profile of university students using the Internet for entertainment or communication purpose in order to understand if their profiles differ depending on affinity to internet. A total of 358 university students were sampled, and the findings indicate that university students can be categorized into those using the Internet mainly for entertainment and communication. Students using the Internet mainly for entertainment are mostly male, and they use the Internet intensively and give great importance to this media. Bayraktar and Gun (2007) also focused on the linkage between internet entertainment and internet use among students and found that adolescents in North Cyprus used the internet generally for entertainment and communication.

### **3.2 Studies on the link between collaborative learning and internet use among students**

On the interaction between collaborative learning and internet use among students, Kwiatkowska and Wiśniewska-Nogaj (2022) explored the use of internet and its role in collaborative distance learning, noting that collaboration is one of the most effective, yet challenging, methods of teaching and learning. The study, which focused on Nicolaus Copernicus University in Toruń, Poland found three groups of students with different skill levels, who also vary according to their own experiences in collaborative online learning, but not in terms of views on the phenomenon, technologies used, or computer hardware. The study expanded the frontiers of knowledge on the use of the Internet in collaborative learning. Following the challenges thrown up by Covid-19 Pandemic, Omodan and Ige (2021) explored the option of online collaborative teaching and learning as an alternative to physical collaborative teaching and learning process by identifying the challenges militating against the implementation of the former. The study found that challenges like students struggling to locate their group members, unstable internet access, and electricity shortage mitigate against the use of internet for collaborative teaching and learning. Furthermore, the study showed that tolerance among group members and consistent utilization of online collaborative learning are the possible ways to resolve the aforementioned challenges.

Favale et al. (2020) observed that the novel COVID-19 pandemic led to the adoption of various measures to counteract the spread of the infection, and the lockdown and social distancing

measures redefined people's ways of life while the Internet gained a major role in supporting remote working, e-teaching, online collaboration, gaming, and video streaming, among others. Thus, this study investigated the impact of the lockdown enforcement on the Politecnico di Torino campus network, where virtual teaching and learning was deployed following the school shutdown on the 25<sup>th</sup> of February, 2020. The University has continued to offer about 600 virtual classes daily, serving more than 16,000 students daily ever since. The study found robust evidence of how the Internet was successfully used to cope with the challenges posed by the pandemic while fostering online collaborative teaching and learning. Dhawan (2020) explained that educational institutions (schools, colleges, and universities) in India were based on the traditional physical mode of teaching and learning prior to the Covid-19 Pandemic, which forced the education system across the world to shift to an online mode of teaching and learning. Academic institutions had no option but to embrace online teaching–learning. Thus, the study x-rayed the need for online learning and its strengths, weaknesses, opportunities, and challenges, thereby underscoring the importance of collaborative learning as part and parcel of the e-learning mode.

Ajebomogun and Oduwole (2018) studied the trends in social media use as well as interactive and collaborative learning for scholarly research among postgraduate students in Federal University of Agriculture, Abeokuta, Nigeria during the 2017 academic session. The study observed that the use of social media and networking tools is crucial for postgraduate students and very helpful in the course of conducting scholarly research. A random sample of 803 postgraduate students were used, while the data collected with a questionnaire were analyzed using frequency counts, percentages, mean, standard deviation and Pearson moment correlation analysis. Among others, the study found that postgraduate researchers had a strong preference for the using media sites like Facebook, Twitter, Flickr and Research gate, while challenges like poor internet connectivity and respondents' low level of ICT skills constrain the use of these media for collaborative teaching and learning.

Apuke and Iyendo (2018) investigated the use of the internet in research and learning by undergraduate students in three selected universities in North-Eastern Nigeria. The purpose of the study was to establish the place of the internet in academic research and learning of undergraduate students in North-Eastern Nigeria by exploring the students' access and their beliefs about the academic benefit of utilizing the internet and digital resources for educational research and learning. Four research questions and four hypotheses guided the study. The study adopted descriptive survey design, and used questionnaire to collect data from a sample of 306 students that were randomly selected from three universities, that is, 102 students per

university. The three universities included in the study were: Taraba State University, Jalingo; Adamawa State University, Mubi; and University of Maiduguri, Borno State. Frequency counts and simple percentages presented in tables and graphs were used to analyze the data. The results of the study revealed that most of the students depend on their smartphones to access the internet and that the students have become overly reliant on Google, Yahoo, and open access e-Journals. The results further indicate that the students' use of internet enables them to perform research, tackle multiple homework, widen their scope of reading and learning, engage in self-learning as well as collaborative learning with their peers.

Adamu and Ugwuadu (2017) investigated the role of the Internet in the teaching and learning of Biology in Federal College of Education, Yola, Adamawa State. The purpose of the study was to examine the impact and problems of using internet facility in the teaching and learning of Biology in Federal College of Education, Yola, Adamawa State, especially as it affects collaboration and cordial relationship between lecturers and students for effective teaching and learning of Biology. Four research questions and four hypotheses guided the study. The study adopted descriptive survey design, and used questionnaire to collect data from 100 Nigeria Certificate in Education (NCE) students studying Biology Education. Descriptive statistics (such as Percentage, Mean and Standard Deviation) were used to analyze the data. The results of the study revealed that internet conferencing, e-mail facility, Facebook facility, Web log and world wide web (www) were the forms of internet facilities used in the teaching and learning of Biology in Federal College of Education, Yola, Adamawa State. The results also indicate that internet facilities provide both students and lecturers with the opportunity to collaborate and network in the teaching and learning of Biology, thereby promoting cordial relationship between them. The study further highlighted that students face some challenges in their use of the internet, including: the high cost of accessing the internet; poor speed of internet facilities in the College; lack of training and skills on how to use the internet; poor electricity supply; and incessant virus attacks.

Shonola, Joy, Oyelere and Suhonen (2016) studied the educational use of mobile technology in supporting the learning process in Nigerian universities. The purpose of the study was to determine the impact of mobile devices for learning purposes by exploring the kinds of interactions that students in Nigerian universities have with their portable gadgets such as smartphones and tablets. Three research questions and three hypotheses guided the study. The study adopted descriptive survey design, and used questionnaire to collect data from a sample of 240 students selected from two universities in South-West Nigeria. Frequency distributions, pie charts, histograms and statistical tests such as the nonparametric Mann-Whitney U Test

were used to analyze the data. The results of the study revealed that the students use their portable devices to access the internet and engage in collaborative learning by exchanging education-related messages and academic files with classmates and holding discussions with classmates. These findings are also consistent with Lampe, Wohn, Vitak, Ellison and Wash (2011); Oliver and Goerke (2007); and Bozanta and Mardikyan (2017).

### 3.3 Summary of Literature Review and Gaps in Knowledge

The foregoing overview of the existing literature reveals two important stylized facts. The first is that a large literature is evolving on the internet use of undergraduates across the globe, especially in developing countries like Nigeria. The second fact is that the social factors of undergraduates may be useful in understanding the patterns of their internet use. However, none of the studies reviewed empirically explored social factors like internet entertainment and collaborative learning as correlates of internet use among undergraduate students of federal and state universities in Enugu State, South East Nigeria. This is in spite of the fact that internet use by these undergraduates may be detrimental to their social and educational development. This informed the gap the present study addressed in the literature.

## 4. Methodology

**4.1. Design of the Study:** The study adopted correlation survey design. According to Nworgu (2015), correlation survey design establishes what relationship exists between two or more variables. It shows the direction and magnitude of the relationship between the variables in order to make predictions (Ezeh, 2015). This design is suitable for the study because it can indicate a predictive relationship, and hence, would be useful in establishing the relationship between the variables of interest.

**4.2. Area of the Study:** The study was carried out in federal and state universities in Enugu State, South East Nigeria. These universities include University of Nigeria, Nsukka (UNN), and Enugu State University of Science and Technology, Enugu (ESUT). UNN is a federal university located in Nsukka, Enugu State, Nigeria. The main campus of the University is located on 871 hectares of hilly savannah in the town of Nsukka, about eighty kilometers north of Enugu, the administrative capital of Enugu State of Nigeria (National Population Commission, 2006). The Nsukka campus of the University houses the following faculties: Agriculture, Arts, Biological Sciences, Education, Engineering, Pharmaceutical Sciences, Physical Sciences, Social Sciences, Veterinary Medicine and Vocational Technical Education;

while the Enugu campus of the University houses the following faculties: Basic Medical Sciences, Business Administration, Dentistry, Environmental Studies, Health Sciences and Technology, Law, and Medical Sciences. The University's teaching hospital, that is, the University of Nigeria Teaching Hospital (UNTH), is located in Ituku-Ozalla, Enugu State. Nsukka is quite easily accessible from all parts of Nigeria. There is regular road transport between Nsukka and Enugu, and the asphalted roads are in good state of repair. Nsukka has numerous shopping centres and a large market. It also hosts numerous deposit money banks, microfinance banks, hotels and hospitals. The top two telecommunication and internet service providers in Nigeria, that is MTN and Glo, have their branch offices near the main gate of the Nsukka campus of the University.

ESUT has its permanent site in Agbani, Nkanu West Local Government Area of Enugu State. This site has a total land mass of 803,725 hectares housing the Postgraduate School and the following six (6) faculties: Agriculture and Natural Resources Management, Applied Natural Sciences, Education, Environmental Sciences, Law and Social Sciences. The Enugu City campus of the University houses two faculties (Management Sciences and Engineering), the Mature Student Programme (MSP), and the College of Medicine. Agbani is easily accessible from all parts of Nigeria. There is regular road transport between Agbani and Enugu, and the asphalted roads are in good state of repair. Besides, the entire 12 kilometer road network connecting the staff quarters, student hostels, academic and administrative areas within the Agbani campus of the University are tarred. The University has a fully functional medical centre in Agbani and regular bore-hole water supply. The Agbani campus also hosts several deposit money banks and telecommunication service providers.

The choice of the area of the study was informed by the fact that most undergraduate students of federal and state universities in Enugu State have been observed to be spending unnecessarily long hours surfing the internet rather than concentrating on their studies. These students stay longer hours on the internet because the university environment allows them easy and affordable access to internet. Indeed, the life style of these undergraduates, especially the use of the internet, is typical of their contemporaries across Nigeria and other Sub-Saharan African countries.

**4.3. Population of the Study:** The population of the study is made up of the 44,152 undergraduate students in federal and state universities in Enugu State, South East Nigeria. This population comprises 28,047 undergraduates of UNN and 16,105 undergraduates of ESUT. The statistics for UNN was obtained from the Academic Planning Unit, Office of the

Vice-Chancellor, UNN, while that of ESUT was obtained from ESUT (2016). Both statistics are as of the 2016/2017 academic session, which are the latest statistics available.

**4.4. Sample and Sampling Technique:** The target sample size of the study is one thousand two hundred (1200) undergraduate students from both selected universities. This is supported by Nwana (2000), which recommended that “when the population runs into few hundred use 40% or more, when several hundred use 20%, when thousand use 10% and when several thousand use 5% or less”. The study adopted multi-stage sampling technique. In the first stage, purposive sampling technique was used in selecting three faculties (Faculty of Engineering, Faculty of Biological Sciences and Faculty of Physical Sciences) from UNN and three faculties (Faculty of Social Science, Faculty of Education and Faculty of Law) from ESUT. This is to ensure that both science-oriented students and non-science inclined students like Law students are equally represented. However, the researcher chose the students in Faculty of Engineering, Faculty of Biological Sciences and Faculty of Physical Sciences because they seem to be surfing the internet more compared to their counterparts in other faculties in UNN as majority of them use YouTube for demonstrations of engineering drawing and designs, and other laboratory demonstrations. Likewise, it is apparent that undergraduate students in the Faculty of Social Sciences, Faculty of Education and Faculty of Law from ESUT have similar social, psychological and academic characteristics and dispositions towards the internet as their counterparts in UNN and as such they could represent them.

In the second stage, simple random sampling technique without replacement was used to select one level (i.e. third year) out of all levels of students (i.e. first year, second year, third year, fourth year and fifth year) from each of the selected faculties in both universities. The technique was enhanced using paper cards where the researcher crafted “A”, “B”, “C”, “D” and “E” to represent first year, second year, third year, fourth year and fifth year, respectively, and the paper cards were put in a container and shaken, and one paper card (i.e. “C”) was selected. The reason for this is to give every level equal chance of being included in the sample. In the last stage, accidental sampling technique was used to sample two hundred (200) undergraduates from each of the six faculties earlier selected in the first stage. This is to ensure that only the respondents that can be reached were included in the sample.

**4.5. Instruments for Data Collection:** The instruments used for data collection in this study consist of two researcher developed questionnaires titled “Social Factors Questionnaire (SFQ)” and “Questionnaire on Internet Use of Students (QIUS)”. The questionnaires were developed with insights from the extant literature. The SFQ was arranged in two clusters and each cluster had 15 items. Cluster A elicited information on internet entertainment, while

Cluster B elicited information on collaborative learning. The QIUS solicited information on internet use and also contained 15 items. All the items in both questionnaires were modelled on a 4-point rating scale of: Strongly Agree (SA); Agree (A); Disagree (D); and Strongly Disagree (SD) with numerical values of 4, 3, 2, and 1 point assigned to each of the responses, respectively.

**4.6. Validation of the Instruments:** The instruments were subjected to face validation by presenting them to three experts, one each from Guidance and Counselling, Psychology, and Measurement and Evaluation, all in the Faculty of Education, University of Nigeria, Nsukka. The validates were asked to review the items in the instruments in terms of their clarity, simplicity of vocabulary, and relevance of the items to the study. Their corrections and recommendations were used to modify the instruments in order to produce the final instruments for the study.

**4.7. Reliability of the Instruments:** To establish reliability of the instruments, trial testing procedure was adopted. The instruments were administered on twenty (20) undergraduate students of the University of Abuja, Nigeria, which is outside the study area. The data collected was subjected to the test of internal consistency using Cronbach's Alpha Coefficient. For the SFQ, the reliability coefficient 0.93 for internet entertainment in cluster A and 0.84 for collaborative learning in cluster B, while the overall reliability coefficient was 0.86. For the QIUS, the reliability coefficient was 0.89. Overall, these results show that the instruments are reliable.

**4.8. Method of Data Collection:** The research instruments were administered to the respondents with the help of three research assistants. The three research assistants were adequately briefed on the questionnaires and the modalities for administering them. The use of research assistants helped to ensure that the actual respondents for whom the instruments were meant for were the ones that filled it. The questionnaires were collected immediately after the respondents completed them to avoid attrition; however, one of the questionnaires which was not properly completed by the respondent was excluded from the analysis. Thus, 1,199 respondents were used for the analysis.

**4.9. Method of Data Analysis:** The data collected were analyzed using Pearson Product Moment Correlation Coefficient and F-ratio from regression models. While the correlation coefficient aptly captures the linear correlation between two variables (for instance, internet entertainment and internet use of undergraduate students), the F-ratio enables us to test whether the presumed relationship is statistically significant or otherwise. The tests of significance are conducted at the conventional 5% level.

## 5. Empirical Results:

In what follows, the results of this study are presented and discussed according to the specific objectives of the study.

**5.1. Specific Objective One:** The first specific objective of this study is to determine the relationship between internet entertainment and internet use among undergraduate students. Table 1 reports the regression analysis of this relationship.

**Table 1:** Regression analysis of the relationship between internet entertainment and internet use among undergraduate students

Variables	R	R <sup>2</sup>
Internet Entertainment and Internet use among Undergraduate Students	0.49	0.24

**Source:** Authors. **Notation:** (R) = Correlation Coefficient, (R<sup>2</sup>) = Coefficient of Determination

The result in Table 1 shows that the correlation coefficient between internet entertainment and internet use among undergraduate students was 0.49. This means that there exists a positive relationship between internet entertainment and internet use among undergraduate students. Table 1 also reveals that the coefficient of determination (R<sup>2</sup>) associated with the correlation coefficient of 0.49 is 0.24, indicating that 24% of variation in internet use among undergraduate students is attributed to internet entertainment. To check if the relationship between internet entertainment and internet use among undergraduate students is significant or otherwise, we present the regression results in Table 2.

**Table 2:** Regression analysis testing the significance of the relationship between internet entertainment and internet use among undergraduate students (Dependent variable = Internet use of students)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	46.535	1	46.535	370.525	.000 <sup>a</sup>
Residual	150.460	1198	.126		
Total	196.995	1199			



- a. Predictors: Constant, Internet entertainment

**Source:** Authors.

The results in Table 2 show that an F-ratio of 370.525 with associated exact probability value of 0.00 was obtained. This probability value of 0.00 is highly statistically significant at the 5% level since it is less than 0.05. This means that the null hypothesis of no significant relationship between internet entertainment and internet use among undergraduate students is rejected. This study, therefore, concludes that there is a significant positive relationship between internet entertainment and internet use among undergraduate students. This finding is consistent with Bayraktar and Gun (2007), which established that adolescents use the internet generally for entertainment and communication. The finding also agrees with Abdulrasheed and Musa (2016), which found that entertainment purpose ranked highest under the purposes of internet use among students of public universities and polytechnics. The finding is also consistent with Bankole and Adio (2018), which investigated the pattern of internet use among university students and found that the main purposes of internet use were for entertainment, to complete class assignment and for communication. These empirical evidences indicate that internet entertainment is an essential social factor influencing internet use among undergraduate students. This finding is quite tenable because undergraduate students usually resort to web-based activities for amusement and pleasure. Such activities include playing music, online computer games, streaming videos online, watching football matches and other sporting games online.

**5.2. Specific Objective Two:** The second specific objective of this study is to determine the relationship between collaborative learning and internet use among undergraduate students. Table 3 reports the regression analysis of this relationship.

**Table 3:** Regression analysis of the relationship between collaborative learning and internet use among undergraduate students

Variables	R	R <sup>2</sup>
Collaborative Learning and Internet use among Undergraduate Students	0.26	0.07

**Source:** Authors. **Notation:** (R) = Correlation Coefficient, (R<sup>2</sup>) = Coefficient of Determination

The result in Table 3 shows that the correlation coefficient between collaborative learning and internet use among undergraduate students was 0.26. This means that there exists a positive relationship between collaborative learning and internet use among undergraduate students. Table 3 also revealed that the coefficient of determination ( $R^2$ ) associated with the correlation coefficient of 0.26 was 0.07, indicating that 7% of variation in internet use among undergraduate students is attributed to collaborative learning. The correlation coefficient of 0.26 and the coefficient of determination of 0.07 are considered low, suggesting somewhat that the respondents may not be exploiting the opportunities provided by the internet to foster academic collaborations. However, to ascertain if the relationship between collaborative learning and internet use among undergraduate students is significant or otherwise, we present the regression results in Table 4.

**Table 4:** Regression analysis testing the significance of the relationship between collaborative learning and internet use among undergraduate students (Dependent variable = Internet use of students)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.088	1	13.088	85.255	.000 <sup>a</sup>
	Residual	183.907	1198	.154		
	Total	196.995	1199			

a. Predictors: Constant, Collaborative learning

**Source:** Authors.

The result in Table 4 shows that an F-ratio of 85.255 with associated exact probability value of 0.00 was obtained. This probability value of 0.00 is highly statistically significant at the 5% level since it is less than 0.05. This means that the null hypothesis of no significant relationship between collaborative learning and internet use among undergraduate students is rejected. This study, therefore, concludes that there is a significant positive relationship between collaborative learning and internet use among undergraduate students. This finding is consistent with Oliver and Goerke (2007), which established that undergraduates use web-based resources for collaborative learning. The finding also agrees with Shonola, Joy, Oyelere and Suhonen (2016), which found that university students use the internet to engage in collaborative learning by exchanging education-related messages and academic files with classmates and holding discussions with classmates. The finding is also consistent with Apuke and Iyendo (2018) as well as Adamu and Ugwuadu (2017), both of which revealed that internet facilities provide

both students and lecturers with the opportunities to collaborate and network in the process of teaching and learning. These empirical evidences indicate that collaborative learning is a vital social factor influencing internet use among undergraduate students. However, the low nature of the relationship between collaborative learning and internet use among undergraduate students could be due to the fact that some undergraduates are yet to explore the internet as a means of building collaborations with classmates and lecturers. Nonetheless, this study has established a significant relationship between collaborative learning and internet use among undergraduate students, which arises because undergraduate students usually use internet facilities to collaborate among themselves and with their lecturers.

## **6. Concluding Remarks and Policy Implications/Recommendations**

Undergraduate students use the internet for various purposes, including entertainment and collaborating with schoolmates and lecturers. Hence, this study investigated internet entertainment and collaborative learning as correlates of internet use among undergraduate students in federal and state universities in Enugu State, South East Nigeria. The study found that there is a significant positive relationship between: internet entertainment and internet use among undergraduate students; and collaborative learning and internet use among undergraduate students. The study, therefore, concludes that internet entertainment and collaborative learning are important social factors that predispose undergraduate students to the use of the internet.

Based on the findings of this study, the following policy implications and recommendations are made. First, the findings of this study indicate that there is a significant positive relationship between internet entertainment and internet use among undergraduate students. This implies that internet entertainment is an essential social factor that influences internet use among undergraduate students. It also shows that undergraduates exploit web-based activities for amusement and pleasure. Such activities include playing music, online computer games, streaming videos online, and watching football matches and other sporting games online. Hence, this study recommends that parents, guardians, academic advisers and counsellors should continuously encourage students to use the internet moderately for entertainment purposes so that they can have time for their studies. Students should be conscious of the fact that using the internet excessively or addictively for entertainment purposes could affect their studies adversely.

Second, the study also finds that there is a significant positive relationship between collaborative learning and internet use among undergraduate students. However, the relationship appears quite low, suggesting that undergraduates may not be exploiting the academic collaborative opportunities offered by the internet. Hence, the study recommends that students should endeavour to exploit internet facilities to engage in collaborative learning with classmates, lecturers and other professionals in order to enhance their performance. Lecturers should also encourage internet-based collaborative learning in order to network with their students and promote cordial relationship between them as part of the teaching and learning process. This will enhance exchange of education-related messages and academic files not only between lecturers and students but also among students. It will also improve the holding of class discussions among students, thereby fostering the much-needed conducive learning environment. Overall, parents, guardians, academic advisers, and counselors should continuously monitor the pattern of internet use of undergraduates to avoid the challenges associated with unbridled internet use.

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