

Utilization of Internet Resources and Academic Performance of Educational Technology Students in Faculty of Education, University of Calabar - Nigeria

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Abstract

The study examined the utilization of internet resources and academic performance of Educational Technology Students in faculty of education, University of Calabar, Nigeria. Four research questions were posed and four hypotheses formulated to guide the study. Related literatures in the variables involved internet resources and academic performance of Educational Technology students were reviewed. The research design adopted for this study was survey research design. The instrument for data collection was a questionnaire of twenty-five (25) items titled internet resources and academic performance of educational technology students in the faculty of education. The samples of 133 educational technology students were randomly selected from a population of 333 in the educational technology unit in the study area. Their responses were used as data to answer the research questions using Pearson product moment correlation coefficient analysis at .05 level of significance. The findings revealed that e-journals, e-books, e-blogs/forum and search engine have a significant relationship on the academic performance of educational technology students. In the light of these findings, it was recommended that awareness should be created and importance be placed on the various internet resources, students should be educated on the proper use of this available internet resources to enhance effective outcome.

Keywords: Utilization; Resources; Academic performance; Internet; Technology

Background to the Study

The use of internet in the educational environment has enabled easy access of many resources, and information sharing has therefore, significantly increased. Moreover, the prevalence of this sharing has brought additional balance of this resources can be used in any location and any time. The internet which is an integral aspect of the information and communication technology (ICT) is becoming an

indispensable tool for quality teaching, learning and research in an academic setting. Its impact on education has been massive, thereby engendering such term like e-teaching, e-learning, virtual teaching/learning, e-training among others, all developed around internet application in the field of education. The internet is a useful tool in the “tri-personality” of a lecturer, a teacher, a life-long learner and a researcher. It provides a wealth of resources for optimum achievement of the ends targeted by the personality within seconds, a lecturer can retrieve information through the internet to update his/her knowledge, students, mark their assignment and also work with colleagues and specialists (Scholastic, 2019).

Brain (2003) viewed internet as the “mother of all networks”. He also says that internet is a world wide networks (WWW). These networks link educational, commercial and military entities. The internet is a network that has evolved and grown overtime. Its origin was in a research programme initiated in 1973 by the Defence Advanced Research Project Agency (DARPA). The goal of this programme was to develop the ability to connect a variety of computer networks so that they could function as a single reliable network. The internet has become a universal publishing, distribution, real-time communication and broadcasting medium. It can also be used to gather information from users and the worldwide web which is seen as a mainstay of internet. This now offers streaming multimedia play back and may include streaming video, graphics, photographic, image, texts and so on.

Internet resources are regarded as the mines of information that are preserved through modern ICT devices, refined and redesigned and more often stored in the cyber space in the most concrete and compact form and can be accessed simultaneously from infinite points by a great number of audience. The phrase “electronic resources” has broadly been defined as information accessed by a computer, maybe useful as bibliographic guides to potential sources but, as of yet, they infrequently appear as cited references in their own right. Moreover, electronic resources refer to that kind to documents in digital formats which are made available to library users through a computer based information retrieval system. Because of the effective presentation with multimedia tools, electronic resources have become the source of information. There are various types of internet resources but only few shall be considered in this study, viz; e-journals, e-books, e-blogs/forum and search engine.

Electronic journals: These are serial publications that are available in digital format. E-journals may be distributed in a number of ways, such as on hard-drives and the internet. The ones that come through the internet are made available through the World Wide Web and email. Others come in formats such as Adobe’s Personal Digital File (PDF). Some of the electronic journals can be accessed by users for free while others have to be subscribed to (Klemperer, 1999). As is also called e-journals, are publications that are often scholarly and are accessible through the use of computers and distributed to a number of users. Accessibility of e-journals is the degree to which electronic journals are available or obtainable (Boakye, 2015).

E-books: Is an electronic version of a traditional print book that can be read by using a personal computer or by using an e-book reader users can purchase an e-book or diskette or CD, but the most popular method of getting an e-book is to purchase a downloadable file of the e-book (or other reading material) from a web site (such as Barnes and Noble) to be read from the user’s computer or reading device. Generally, an e-book can be downloaded in five minutes or less.

E-blogs/forum: Refers to students platform such as Facebook, WhatsApp, e-mail, Instagram, etc. which aids in motivating, updating and making student active learners disseminating educational information. Whereas, Search engine: Refers to the various websites students can use in sourcing for materials for their academic work such as Google.com, Yahoo.com, Bing.com, Ask.com etc. Are open access sites and are the most widely used resources for students’ projects. Many of them have open access on internet explorer programs, but some are customizable tools supplying multiple search engines like “Copernic”. Resources which are accessed through these engines are mostly used by students for gathering the required information for their projects (Yasar, Sabah and Tunca 2010). Internet use, especially in education has been investigated for sometimes and many different studies exist in literature about that subject. In the study of D’Esposito and Gardner (2017) internet usage

trends of the university students and their perception of the internet and a traditional library were presented. Since the analysis guide study will be based on the use of questionnaire, this study will not guarantee one hundred percent protection against certain variable that may affect respondents' mental and emotional well-being during the completion of the questionnaire.

It calls for concern that most students in the faculty of education in the University of Calabar, do not have access to internet resources to boost their learning ability and improve their academic performance in general perspective. Further, the output from the study analysis revealed vast majority of students are not aware of the relevance of the utilization of internet resources to enhance their academic performance.

Literature Review

E-journals and Academic Performance of Educational Technology Students

Electronic journals are serial publications that are available in digital formats. E-journals may be distributed in a number of ways, such as on hard-drives and the internet. The ones that come through the internet are made available through the World Wide Web and email. Others come in formats such as Adobe's Personal Digital file (PDF). Some of the electronic journals can be accessed by users for free while others have to be subscribed to (Klemperer, 1999). The efficiency of academic journal database is related to the number of periodic covered and the evaluation techniques of them in order to form a universal academic index. They provided a rich source of specialized information and are widely used by many academics and students. They are an essential reference tools for these people for detailed research into different subject's areas, and are grouped into subjects according to the different disciplines.

Electronic journals relatively provides private efficient access to information and, thus they are easy to distribute to library patrons than traditional printed journals. Electronic journal can take two different forms: journal that are published in print form, available in digital form and electronic journal which do not necessarily need a publisher, and which can be managed by an editor and the scholarly community. Both may have a significant impact on scholarly communication and in the way knowledge is created and disseminated. Ray and Day (2019) carried out a study on students attributes towards electronic resources. The study reveals that a large number of students leave universities without necessary skills to cope within the information based society. Electronic information resources offer today's students new opportunities that were not available to previous generation.

Chirra and Madhusudhan (2017) in a survey on use electronic journals by doctoral research scholars of Goa University, India, revealed that all (100%) of the respondents were aware of the e-journals of the Consortium and accessed them. Studies by Okello-Obura et al., (2010), Ercegovic (2009), Manda (2005), and Dadzie (2005) on the other hand found that respondents were not aware of most of the e-resources provided for them in their respective institutions and therefore affected their usage. Manda (2013) for example reported that PERI resources provided in academic and research institutions in Tanzania were underutilized because potential users were not aware of the resources due to lack of publicity.

Brar, Singh and Kaur (2019) assessed the use of e-journals by library and information science researchers of India: an empirical analysis. The purpose of the research was to find out the level of awareness and use of e-journal by the researchers pursuing Ph.D in library and information science. Design/Methodology/Approach – the data was collected through a well-structured questionnaire from the research scholars of library and information science. The study reveals that all the researchers of library and information science were aware about the availability of e-journals. The screen reading was preferred by majority of researchers and the HTML was the preferred format. But the less number of researchers prefer or published their research paper in e-journals.

E-book and Academic Performance of Educational Technology Students

E-book is an electronic version of a printed book which can be read on a computer or a specifically designed handheld device. Okori, Nwokocha and Ibenne (2018) in their findings noted that Electronic books (e-books) were found to be the resources mostly available for the students' academic consumption. Falak (2013) reported the rapid growth and use of e-books in schools, colleges and universities in developing countries. Asherofta and Watts (2004) also mention the potential advantages of e-books including easier access, speedy publications, space-saving and lower costs.

Readers of electronic books are able to search for their favourable topics more easily and rapidly compared to those of printed ones. Adopting a qualitative approach, Letchumanan and Tarmizi (2011) studied the rate of use of electronic books among students of Mathematics in one of Malaysian universities, and concluded that most of the respondents have similar reading habits. Factors such as easy access, reduction of physical references to library and variety of learning methods have caused students to tend to use electronic books. Through a comparative study, Jeong (2012) investigated the effect of electronic and printed books on rate of 56 years old students' comprehension and eye fatigue. They concluded that printed books are better than electronic ones in terms of comprehension. In terms of eye fatigue, students felt more tired after studying the electronic books than after studying the printed ones. Results of their research also showed that the students were satisfied with electronic books, but preferred printed type ones. Jeong (2010) noted that the e-book has taken its place beside its print counterpart as an accepted method of accessing the published word, and it is now seen as a normal element of any library collection. It may be true that more and more of what we read will be digitalized. However, despite likely improvements in e-books, there is still a debate over the effects of this mode of reading. E-book presents an exciting but also controversial topic for users. This issue has to do with poor legibility, intrinsic complexity and poor design.

Letchumanan and Tarmizi (2011) worked e-book on utilization among mathematics students of University Putra Malaysia (UPM). The purpose of this preliminary study was to identify the e-book utilization habit of postgraduate and undergraduate students from the Mathematics Department of University Putra Malaysia (UPM), and to determine the reasons why students are feeling comfortable or uncomfortable with the services offered by the library and the role the librarians can play in solving the identified obstacles. Design/methodology/approach – A qualitative approach which employs a face-to-face interview session was used to collect information on e-book utilization habit and to capture perception of the e-book services offered by UPM library. Findings disclosed that most of the participants use one common e-book reading habit. Factors such as easy access reduce physical visits to the library and user-friendly features offer a comfortable platform for the participant to use the mathematics e-books. However, unreliable service, eye fatigue, lack of manipulability of online features and flaws in the physical design and insufficient e-book collection cause the participants to feel uncomfortable with the service.

Jeong (2010) research the influence of electronic books and paper books on reading comprehension, eye fatigue and perception. The purpose of the study was to assess the usability of electronic books (e-books) and paper books (p-books) with objective measures, including user comprehension, eye fatigue and perception. The result revealed that there is a significant "book effect" on quiz scores; compared to e-books, p-books appear to enable better reading comprehension. Regarding eye fatigue, students had significantly greater eye fatigue after reading e-books than after reading p-books. Students were satisfied with the e-books, but they preferred p-books.

E-blogs/forums and Academic Performance of Educational Technology Students

University education is geared toward the production of a complete intellectual, capable of independent learning and research prior to the use of information and communication technology (ICT) for acquisition, processing and dissemination of information, university research, teaching and learning were restricted to information due to material available to student's dominical institutions library

through inter-lending. However, with globalization through the internet Carbo (2015) informed that the world is shrinking resulting to immediacy of information. Thus, multimedia resources can be created, and information can be communicated instantaneously. In the past years, social media websites have become common; giving young people a new way to interact with each other and communicate with the world. Social networking became popular between 2004 and 2006, after Face-book and Myspace were created. Face-book, for example has over 500 million members and it is still growing and approximately 85% of undergraduate students are Face-book users (Schneider, 2017). These numbers are expected to grow since Face-book users will continue to grow. And this is not only true for Face-book, numbers for YouTube users closely follow as well (University of New Hampshire, 2015). In a research by Pempek, Yermolayeva, and Calvert (2019), the amount of time spent daily on social network sites varied greatly. However, an analysis of the data indicated most participants spent approximately thirty minutes a day socializing, mostly during the evening hours between 9pm to 12am, students spent an average of forty-seven minutes a day on Facebook. More than 50% of college students go on a social networking sites several times a day (Sheldon, 2019).

Youngsters especially students and researcher spend most of their time in cyber cafe and because this is not available in the university community. They risk travelling a further distance to transact one business or another on the internet. These members of the university community use the internet for the resource it provides which according to Ikoro (2012) include: e-mailing, World Wide Web browsing, Whatsapp, Facebook, Twitter, Instagram, telephoning and telex/video conferencing and others. Available also in the internet are audio broadcasting, news and discussion/chart group and Youtube resources. Using those various resources available on the internet, Cisse (2019) noted that student and researchers are despoised to access maximum information and communicate at world level. Thus they can debate democratically and freely while being exposed to happenings in their fields of activities as well as other subjects.

The popularity and ubiquity of Facebook has therefore inspired numerous academic studies focused on the sites role in higher education (Goertler, 2009; Gresseck, Bran and Tiru, 2010; Mazman and Usluel, 2010) and it potential effects on classroom climate (Mager, Murphy and Simonds, 2007). Research has suggested that there are benefits associated with the use of face-book for educational purpose. Some studies suggest that face-book's emphasis on peer-to-peer interactions can enhance informal learning experience (Godwin, Kennedy, and Veter, 2010, Madge *et al*, 2009; Selwyn, 2009). Kirschner and Karpinski (2015) carried out a study on Face-book and academic performance. The findings disclosed that Face-book use causes a student to study less hours per week or have a lower GPA than nonusers.

Search Engine and Academic Performance of Educational Technology Students

Search engines are open access site and are the most widely used resources for student's access to the internet explorer programs, but some are customizable tools supplying multiple search engine like "Copernic". Resources which are access via these engines are mostly used by students for gathering the required information for their research work. Search engines have been developed that can provide the users with a large body of results by a click. Research suggests that web users often start with a search engine when looking for specific information in their study, because is easy to use, and in a survey 56.3 percent of respondent said that they used a search engine at least once a day (Ebersole, 2015).

Internet search engines domination in students' information-seeking strategy indicates that the behavior of web researchers follows the law of least effort (minimum effort and time) as number of studies (Johnson, Gniffiths and Hartley, 2014) support this as well. Gniffiths and Brophy (2019) reported the results of two user studies that focus on students searching behaviour. The students preferred to use search engine because it assist them to locate information related to their course and assist them in class assignment. Forty-five percent of students used Google as their first port of call when locating information.

However, interestingly pop-up sites attract the students' attention and divert them into spending quality time on relevant subjects in different sites while working on the project. A future study on the frequency and prevention of trap sites would provide an evaluation of the factors affecting the efficiency of open access search engine sites and indirectly the performance of students. Studies suggested that students usually prefer to use search engines instead of e-libraries to review their literature or home assignments Brophy and Bawden (2019) compared google as an internet search engine with academic libraries. Surprisingly, their findings showed that precision is similarly to both systems, but concluded that using them together for a good coverage is important because both has unique items. Lazonder (2000) investigated the novice users and their training needs. In the search for information on the World Wide Web (WWW), noting that locating a website is more important than locating the information on the website. This is true because they lack the skill to utilize the abundant resource at their fingertips.

The main purpose of the study was to examine undergraduates' preference between web search engines and reference sources for research activities. Descriptive survey design was adopted for the study and the study population consisted of all 12,173 regular undergraduates in University of Ibadan (UI) and 2,388 in Redeemer's University Ede Osun State, Nigeria (RUN). Multistage random sampling technique was used to select the sample size of 386 and the questionnaire was research instrument. Findings showed that most of the undergraduates in UI 195 (97.0%) and RUN 130 (92.9%) indicated that Google was their most used search engine. While, 179 (89.1%) and 124 (81.4%) of undergraduates in UI and RUN pointed out that dictionaries were the most used reference sources. Results also showed that majority of undergraduates in UI 161 (83.1%) and 111 (79.3%) in RUN indicated their preference for web search engines for research activities as against reference sources.

Methodology

The research design adopted for this study was survey research design. A survey research design generally collects data from a defined population to describe the present condition using the variable under study.

The sampling technique adopted for this study is simple random sampling. Simple random sampling was most preferred because it gives every member of the population equal chance of being selected. The main instrument used for data collection was the questionnaire designed by the researcher. The questionnaire is the main instrument that was used for data collection.

Result and Discussion

Table 1: Pearson's Product Moment Correlation Coefficient (r) analysis of the relationship between the use of e-journals and academic performance of Educational technology students (N=133)

Variable	X	SD	r-value
E-journals	13.2556	2.01755	-.152*
Academic Performance	16.3759	1.67694	

* Significant at .05 level, critical r = .081, df = 131

Table 2: Pearson's Product Moment Correlation Coefficient (r) analysis of the relationship between the use of e-books and academic performance of Educational technology students (N=133)

Variable	x	SD	r-value
E-book	14.2632	2.09940	.004*
Academic Performance	16.3759	1.67694	

Significant at .05 level, critical r = .964, df = 131

Table 3: Pearson's Product Moment Correlation Coefficient (r) analysis of the relationship between the use of e-blogs/forum and academic performance of Educational technology students (N=133)

Variable	X	SD	r-value
E-blogs/forum	17.3383	1.45585	-.009*
Academic performance	16.3759	1.67694	

* Significant at .05 level, critical r = .918, df = 13

Table 4: Pearson's Product Moment Correlation Coefficient (r) analysis of the relationship between the use of search engine and academic performance of Educational technology students (N=133)

Variable	X	SD	r-value
Search engine	14.1278	2.08680.	-.044*
Academic performance	16.3759	1.67694	

* Significant at .05 level, critical r = .614., df = 13

Discussion of Findings

The findings on hypothesis one shows that e-journal have a significant relationship with academic performance of Educational Technology students. This finding is in agreement with Madhusudhan, (2017) and Ani (2005) they observed that e-journals are now very popular in higher learning institutions all over the world and has enhance their academic knowledge. It also supports Otu, Asante and Martin (2015) who postulated that e-journals were having significant impact on the teaching and research activities of the Students, Lecturers and in the Polytechnic.

The finding of hypothesis two disclosed that, the use of e-book has a significant relationship with academic performance of educational technology students. This result supported Jeong (2010) who posited that the use of e-book enables better reading comprehension and Macedo-Rouet, Epstein, and Fayard (2003) also noted that e-book readers obtained high scores than p-book readers.

In the same vein, the finding of hypothesis three indicated that, the use of e-blogs/forum significantly relates with academic performance of Educational Technology Students. This finding correspond with San (2009) who discovered that, the average e-blogs/forum user had a GPA of 3.07. It is also consistent with Nicole, Gregory, Christen, Lincoln (2012) who disclosed that, the use of e-blogs/forum help to increase student engagement in certain learning contexts by cultivating classroom community and stimulating intellectual discourse. The author noted also that, the use of e-blogs/forum enable students to become better acquainted with classmates, felt like valued participant in the course and learned more course material. This finding also support Godwin, Kennedy, and Veter (2010) Madge *et al*, (2009) Selwyn (2009) who posited that, the use of e-blogs/forum's emphasis on peer-to-peer interactions can enhance informal learning experience.

The finding of hypothesis four disclosed that, search engines has a significant relationship with academic performance of Educational Technology Students. This finding agrees with Gniffiths and Brophy (2019) who stated that, the students preferred to use search engine because it assist them to locate information related to their course and assist them in class assignment. The finding is also in line with Singh, Kaur and Brar (2017) who posited that, all students were using search engine to wider their understanding after classroom discussion.

Furthermore, this result agrees with the work of Brandt (1996) who observed that, Search engine harbour research materials which may not be found in libraries, hence, it enhances knowledge acquisition.

Conclusion

Based on the findings of the study, the following conclusion was made there is a significant relationship between e-journal and academic performance of educational technology students. There is a significant relationship between e-book, e-blogs/forums, search engines and academic performance of educational technology students. Also from the findings, these internet tools has a lot to do with students study ability and retention of information from subject learned.

Recommendations

The following policy recommendation were made from the findings: Awareness should be created and important be place on the various internet resources; students should be educated on the proper use of this available internet resource to enhance effective learning outcome; government should assist the various department with internet facilities to enhance student effective learning; there should be constant power supply that will grant student easy to the use of internet resources and also lecturer in the study area should be train on how to apply the use of electronic resources in their training process.

References

- [1] Advanced Research Projects Agency. nd. Archived from the Original on Defense 23 December, 2016 Retrieved 11 November 2017.
- [2] Akintomide, O. A., & Ademodi, D. T. (2013). Empirical Study of Internet use by Undergraduates in Adekunle Ajasin University Akungba Akoko. Vol. 2 No 5, Pp.1-15.
- [3] Bashir, S., Mohmood, K. and Shafique, F. (2014). Internet Use Among University Students: A Survey in University of the Pungab, Lahore. Pakistan Journal of Library and Information Science. Vol. 9, No. 12, pp.49-65..
- [4] Bonorino, A., and Molteni, D. (2010). A Study of Electronic Journals Collection in Argentinean Private Academic Libraries 25(1): 65- 79.
- [5] Brar, K. S., Singh, B., & Kaur, A. (2017). Awareness and Use of Internet based Sources: A Case Study of North India Innovation. The Research Concept. Vol. 2, No.7 Pp.67-71.
- [6] Brar, K. S., Singh, B., & Kaur, A. (2019). "Use of e-journals by Library and Information Science Researcher in India Information Analysis. <https://digitalcommons.unl.edu/libphilprac/2431>.
- [7] Brophy, J. and Bawden, D. (2019). IS Google Enough? Comparison of an Internet Search Engine with Academic Library Resources. Department of Information Science City University, London, UK. Vol.57, No. 6, Pp. 498-512.
- [8] Carbo, T. (2015). The Librarianship. A View from a School Library and Information Science. Library Connect 1(4):5.
- [9] Cheung, W., & Huang, W. (2019). Proposing a Frame Work to Assess Internet Usage in University Education:An Empirical Investigation from a Student Perspective. *British Journal of Educational Technology*. 36. 237-253.in South Korea. Vol. 32, Pp 522-541.
- [10] Ivwighrehweta, O. and Igera, M. A. (2014). Impact of the Internet on Academic Performance of Students in Tertiary Institutions in Nigeria Vol. 5, No.2.
- [11] Jeong, H. (2012). A Comparison of the Influence of Electronic Books and Paper Books on Reading Comprehension, Eye Fatigue and Perception. Vol. 30 No 3 Pp. 390-408.
- [12] Junco, R. Heibergert, G. and Loken E. (2010). The Effect of twitter on College Student Engagement and Grade-Social Media in Higher Education Vol. 10 Pp. 1365-2729.
- [13] Kirschner, P. A. and Karpinoski, A. C. (2010). Facebook Performance. Computers in Human Behaviour and the Web: Use of Academic Resources and Google. Graduate, School of Library and Information Science University of Illinois at Urbana-Champaign.

- [14] Kleemperer, P. D. (2016). *Electronic Commerce Technologies Contemporary* Nuffield College Oxford University U.K.
- [15] Lazonder, A. W., Harm, J. A. Biemans and Wopereis I. (2000). Differences Between Novice and Experience Users in Searching Information on the World Wide Web. Vol. 51, No. 6, Pp. 576-581.
- [16] Letchumana, M. and Tamizi, R. (2011). "E-book Utilization among Mathematics Students of University Putra Malasia (Upm)". *Library Hi tech*, Vol. 29 No:1Pp. 109-121.
- [17] Macedo-Rouet, M., Epstein, I. Fayarel, P. (2015). Effects of Online Reading on Popular Science Comprehension.
- [18] Marques, S. B. (2012). E-textbooks Usage by Students at Andrews University: A Study of Attitudes, Perceptions and Behaviours.
- [19] Pempek, T. A., Yemmolayeva, Y. A., and Calvert, S. L. (2019). College Students Social Networking Experience on Facebook. *Journal of Applied Developmental Psychology*, Vol. 30 Pp. 227-288.
- [20] Peng, W. Ratan, A. R., and Khan, L. M. (2015). E-book Uses and Class Performance in a College Course.
- [21] Ray, K. & Day, J. (2019). Students Attitudes Toward Electronic Information Resources. *Information Research* Vol. 4 No.2. available at: <http://information.net/ir/4-2/Paper54.html>. Accessed 8th June 2008.
- [22] San, R. (2010). Study on Facebook and Grades Becomes Learning Experience for Researcher. *Tech News World*.
- [23] Sharma, C. (2015). Use and Impact of e-resources at Guru Gobind Singh Indrapratha University (India):A Case of Study *Electronic Journal Academics and Special Briarianship* Vol. 10 no. 1:1-8.
- [24] Shimizu, O., Wilson, C., Dambra, J. and Drumm and R. (2014). "Exploring the fit of e-book to the Needs of Medical Academics in Australia. Vol. 32. No. 3, Pp. 403-422.
- [25] Spinic, A., and Jansen, B. J. (2004). "A Study of Web Search Trends". *Webology*, 1(2) Article 4 Available at <http://www.webology.org/2004/vin2/a4.htm> 1.
- [26] Tajafari, M. (2014). User Perception of Electronic Journals. A Case Study of Sharif University of Technology. Iran.
- [27] Thelwall, M., & Kousha, K. (2015). Web Indicators for Research Evaluation part 1: Citation and Link to Academic Articles from the Web Vol. 24 No. 5.
- [28] Van Modem R. (2014). Online Collaboration: Scientists and the Social Networks Vol. 512. P. 126-129.
- [29] Yakubu, B. (2015). Internet as a Catalyst to Learning and Research: Its Usage by Library and Information Science Student of Abubakar Tafawa Balewa University, Bauchi Nigeria Vol. 3.No. 2.