UNIVERSITY UNDERGRADATES' USE OF INFORMATION AND COMMUNICATION TECHNOLOGY TO LEARN CONCEPTS IN SOCIAL STUDIES

Evbakoe Pedro IKUEREYE (Ph.D)[1], Okunzuwa Rasak UZAMERE (Ph.D)[2]
[1]Instructional Technologist and Lecturer, Department of Curriculum & Instructional Technology, Faculty of Education, University of Benin, Benin City, Nigeria
evbakoe.ikuereye@uniben.edu
[2]Lecturer, Department of Curriculum & Instructional Technology, Faculty of Education, University of Benin, Benin City, Nigeria
okunzuwa.uzamere@uniben.edu

Abstract

The study accessed undergraduate use of Information and Communications Technology for learning concepts in social studies in Universities. Three research questions were raised out of which two of them were hypothesized. A descriptive research design was used in the study. Students enrolled in Edo State's federal and state colleges totaling 55, 545 made up the study's population. Three hundred and twenty-one (321) students studying computer science at the 200 and 300 level made up the sample for the study. The sample was chosen using a purposeful sampling strategy. Undergraduates' Use of Information and Communication Technology (UUICT), a questionnaire created by the researcher, served as the study's instrument. Three instructors from the University of Benin's Faculty of Education's Department of Curriculum and Instructional Technology validated the instrument. The instrument was given to twenty undergraduates who were not involved in the main research in order to determine its reliability. The results of this analysis were examined using Cronbach's Alpha statistic, which yielded a reliability coefficient of 0.703. The investigation's issues were addressed with frequency counts, simple percentages, means, and standard deviations; the t-test statistics were employed test the null hypotheses. The findings showed that ICT is not used to its full potential by Edo State undergraduate students in state and federal universities. There was no variation in the way that Edo State university students used ICT resources based on their gender or type of school. It was therefore recommended among others that students should be encouraged to use ICT for the learning of social studies concepts.

Keyword: Technology, University, Utilization, Undergraduate, Learning

Introduction

Information and communications technology (ICT) is playing a bigger role in the worldwide socioeconomic issues facing a rapidly evolving society. Every nation, organization, or institution strives to acknowledge and embrace it, regardless of its stage of development. As a result, people's awareness of, access to, and use of its facilities are growing among both individuals and society at large. In today's knowledge-driven society, information is more crucial than ever, so university students need to know how to use and actually use

ICT resources for their academic programs. One way to think about information and communications technology (ICT) is as an electronic technology that is utilized for information retrieval and storage. ICT can also be thought of as computer-based tools that individuals utilize to work with an organization's information and communication processing demands. ICT includes computer hardware and software, networks, and various other devices including cameras, microphones, and video.

Data services and student academic achievement are only two examples of how information and communication technologies (ICTs) have impacted every aspect of human effort, according to recent worldwide trends. ICT has a huge impact on many facets of life, including the social, political, academic, economic, and cultural ones. Perhaps this is why the United Nations Development Programme (UNDP) refers to ICT as a "powerful enabler of development." Consequently, in today's world, ICTs are very closely associated with progress.

ICT use enhances human competency in all spheres of human effort, including engineering, law, and medicine. Students at Nigerian universities may do better academically, learn more effectively and enjoyably, develop their creativity, and be better able to study on their own with the proper support and use of ICT. ICTs have clearly had an impact on teaching, learning, and research, and they have also had a significant impact on the field of education. ICTs can help learn more deeply, engage and motivate students, help connect what they learn in school to real-world situations, make tomorrow's workforce economically viable, and improve the teaching and learning processes. In Universities were student ICTs effectively, they have access to ICTs tools that help them focus and give them useful feedback instantly for improving their study. The effective use of ICT is not yet seen in the Nigerian university system. This could be dependent on the availability, functionality, and the learners' ability to access certain ICT facilities (Okebukola, 2006). The World Bank, (2002) reported that, the available ICT infrastructure in Nigerian Universities is at its lowest. In order to curb this situation, National University Commission (NUC) prescribed personal computer ownership. It is necessary to investigate the extent to which this trend has been adopted, though, as it appears that the problem has not been solved. According to Philip, Oluwagbemi, and Oluwaranti (2010), Nigerian colleges are still beset by the issue of insufficient infrastructure for information and communication technologies. As undergraduates in Any University, it may almost a general belief that students make use of ICT facilities for learning. Akuegwu, Ntukidemand and Jaga (2011) stated that most lecturers and students in Nigerian Universities shy away from ICT.

This might have something to do with how the Nigerian educational system is doing. Certain universities in Nigeria lack the necessary infrastructure, like cyber centers, computer-equipped classrooms, and high-speed internet, and are not even financially supported to establish these facilities. Apart from this, there are other issues including inconsistent power supply, a non-functioning or absence of necessary telecommunications infrastructure, and poor internet connectivity. In a world where using

ICT tools for routine tasks is practically required. Every time there is an advancement in ICT, there is joy, enthusiasm, and a desire for use among many people, including students. Although there are drawbacks and worries associated with the use of ICT facilities for teaching and learning, its benefits are indisputable, particularly in the context of social concept teaching and learning. Since education is aimed at the community, having a solid understanding of social concepts will assist both the individual and the community in achieving its educational objectives. There are many ICT tools available for use in teaching and learning, social concepts. Therefore, it will be necessary to find out if undergraduates utilize ICT facilities for learning social concepts in Universities.

Research Questions
To direct the investigation, the following questions were posed:

1. Does Undergraduates utilize ICT facilities for learning social concepts?
2. Will undergraduates in Universities be different in ICT utilization based on gender?

3. Will undergraduates in Universities be different in ICT utilization based on School type?

Hypotheses
The following hypotheses was tested in the study.
1. There is no significant gender difference in the utilization of ICT facilities by University undergraduate
2. Undergraduates' utilization of ICT resources is not significantly different depending on the type of school.

Methodology
Descriptive survey research was the method used for this investigation. The fifty-five thousand five hundred and forty-five (55, 545) students enrolled at Edo State's federal and state institutions made up the study's population. Students majoring in computer science at state and federal universities in the state were the target demographic since they are expected to be more digitally inclined. The entire three hundred and twenty one (321) second- and third-year computer science students from the universities made up the study's sample. The researcher-created Undergraduates' Utilization of Information and Communication Technology (UUICT) questionnaire served as the study's instrument. Two professors from the University of Benin's Department of Curriculum and Instructional Technology in Benin City, Edo State, validated the tool. The instrument was updated to create the final copy using the expert adjustments and modifications. Twenty undergraduate students who were not involved in the primary study were given the instrument to test its reliability; the results of this analysis, which used Cronbach's Alpha to determine the reliability coefficient, was 0.703. While the t-test statistics were utilized to test the null hypotheses, frequency counts, simple percentages, means, and standard deviations were employed to answer the research questions.

Results

Research Question 1: Does Undergraduates utilize ICT facilities for learning social concepts?

Table 1: Mean and standard deviation of scores from participants on the utilization of ICT Facilities

S/N	Questionnaire Items	N	Always	Often	Rarely	Never	Mean	Standard Deviation	Decision
1.	I use institutional Cyber Café	315	30 8.6%	72 20.6%	102 29.6%	111 31.8%	2.0667	.98006	Never Used
2.	I use computer laboratory	315	44 12.6%	57 16.3%	97 27.8%	117 33.6%	2.0889	1.05201	Never Used
3.	I use CD Rom facilities	312	22 6.3%	67 16%	82 23.5%	141 40.4%	1.9038	.97082	Never Used
4.	I use digital Library	311	47 13.5%	70 20.1%	80 22.9%	114 32.7%	2.1608	1.08354	Never Used
5.	I use institutional Email	310	54 15.5%	42 12.0%	104 29.8%	110 31.5%	2.1290	1.08362	Never Used
6.	I use tablets for downloading resources for learning	315	101 28.9%	76 21.8%	43 12.3%	95 27.2%	2.5810	1.22173	Always Used
7.	I use wireless local area network WLAN	311	106 30.4%	74 21.2%	67 19.2%	64 18.3%	2.7138	1.14093	Always Used
8.	I use Tele-conferencing facilities	309	24 6.9%	35 10.0%	74 21.2%	176 50.4%	1.6990	.95178	Never Used
9.	I use Google search for instructional materials	314	228 65.3%	45 12.9%	17 4.6%	24 6.9%	3.5191	.90505	Always Used
10.	I use electronic bulletin boards	302	13 3.7%	26 7.4%	89 25.5%	174 49.9%	1.5960	.82065	Never Used

Mean of Means

2.245

The data presented in Table 6 reveals that items six, seven, and nine had a mean ranging from 2.58 - 3.51 with the frequency and percentage indicating that those facilities are always used as their mean is above 2.50 which is the midpoint. While the mean for items one, two, three, four, five, eight and ten were ranging from 1.59 – 2.16 which is below the midpoint where the frequencies and percentages indicated that the participants never used those ICT facilities. From the mean of means which is 2.245 it shows that students in Edo state don't use ICT facilities.

Research Question 2: Will undergraduates in Universities be different in ICT utilization based on gender?

Hypothesis 1: There is no significant difference in utilization of ICT facilities by undergraduate based on gender.

Table 2: t-test analysis on the significant difference of undergraduates' utilization of ICT in Universities based on gender

Variable	No Exp.	$\overline{X}$	SD	df	t-Cal.	t-Critical	Sig (2-tailed)	Decision
Male	169	52.18	3.15	42	1.547	1.960	.221	
Female	152	50.53	3.51					

								H_{01} Accepted

Table 2 revealed that there was no significant gender difference in undergraduates' utilization of ICT in Edo State Universities based on gender. The table shows that the calculated value is 1.547 while the critical value is 1.960 at 0.05 alpha level; therefore, the null hypothesis is accepted.

Research Question 3: Will undergraduates in Universities be different in ICT utilization based on School type?

Hypothesis 2: There is no significant difference in utilization of ICT facilities by undergraduate students based on school type

Table 3: t-test analysis on the significant difference of undergraduates' utilization of ICT in Edo State Universities based on school type

Variable	No Exp.	$\overline{X}$	SD	df	t-Cal.	t-Critical	Sig (2-tailed)	Decision
Male	169	54.01	2.98	43	1.578	1.960	.237	
Female	152	51.54	3.41					H_{02} Accepted

Table 3 revealed that there was no significant difference in undergraduates' use of ICT in Edo State Universities based on school type. The table shows that the calculated value is 1.578 while the critical value is 1.960 at 0.05 alpha level; therefore, the null hypothesis is accepted.

Discussion of Results

As a result of the analysis on the research questions and hypotheses tested, the following findings were shown.The research question which sought to find out the Utilization of ICT facilities by undergraduates. It was found that Tablets for downloading resources for Learning, Wireless Local Area Network (WLAN) and Google Search for Instructional activities were always used while Institutional Cyber Café, Computer Laboratory, CD Rom Facilities, Institutional Email, Tele-Conferencing Facilities, and Electronic Bulletin Boards were never used

Whereas for the research questions which sought to find out if there was significant differences in utilization of ICT facilities by undergraduate in universities in Edo State by gender and school type. It was found out that there was no difference in the utilization of ICT facilities by undergraduates in Universities in Edo State by gender and school type.

Conclusion

Based on the findings of the study it was concluded that, most ICT facilities were not used in Universities in Edo State. Moreover, there was no significant difference in the utilization of ICT facilities by students in Universities in Edo state based on gender and school type.

Recommendations

In view of the findings and conclusion drawn from this study, it was recommended that students should be encouraged to use ICT facilities for their learning.

References

Anderson J (2010). *ICT transforming education: A regional guide.* Bangkok, UNESCO/Thailand: Asia and Pacific Regional Bureau for Education. Available at http://unesdoc.unesco.org/images/0018/001892/189216e.pdf.Accessed 1 November 2015.

Andersen, B., Howells, J., Hull, R., Miles, I. & Roberts, J. (2000).(Eds.), Knowledge and Innovation in the New Service Economy. Edward Elgar: Cheltenham.

Afolabi A.O. (2009). Clogs in the wheel of ICTs for Higher Education Research in African: The way forward. *J. Res. Educ.* 6(1, 2):190-203.

Aguolu, C.C. & Aguolu, L. E. (2002). A force in library development in Nigeria. World Libraries, 7(2),1 – 12. Retrieved from http://www.worlib.org/volo7no2/aguolu_vo7n2.shtml

Ajuwon, B. (2003), 'Experimenting in distance education: the African Virtual University (AVU) and the paradox of the World Bank in Kenya', *International Journal of Educational Development* 23(**1**): 57-73

Akuegwu, B. A., Ntukidem, P. J., Ntukjidem, E. P, &Jaga, G. (2011). Information and Communication Technology (ICT) facilities Utilization for Quality Instructional Service delivery Among University lecturers in Nigeria, *International journal of modern Education and Computer Science (IJMECS)* 1, 14-20.

Al-Ansari, H. (2006). Internet use by the faculty members of Kuwait University.*The Electronic Library* 24(**6**): 791-803.

Alexander, J. O. (1999). Collaborative design, constructivist learning, information technology. 7, 1–2.

Attwell, P. & Battle, J. (1999). "Home Computers and School Performance".*The Information Society*. 15, 1-10.

Balogun, A. (2008). Designing Web-based training.*British Journal of Educational Technology*, 29 (**4**): 355-371.

Bamiro, O., & Liverpool, S. (2002). ICT and university administration: The Ibadan and Jos examples. *The University Administrator*, 1(**4**): 29-39.

Becker, H. J. (2000). "Pedagogical Motivations for Student Computer Use that Leads to Student Engagement". *Education Technology*.40**(5):** 5-17.

Bhattacharya, I. & Sharma, K. (2007), 'India in the knowledge economy – an electronic paradigm', *International Journal of Educational Managem*ent 21(**6**): 543- 568.

Bransford, J. D., Sherwood, R. D., Hasselbring, T. S., Kinzer, C. K., & Williams, S. M. (1990). Anchored instruction: why we need it and how technology can help. In D. Nix & R. Spiro(Eds.), *Cognition, education, multimedia Exploring ideas in high technology*, 115–141). Hillsdale, NJ: Lawrence Erlbaum Associates.

Brown, S. &. Duguid, J.P. (2000).The social life of information. Boston, MA: Harvard Business Press.

Cholin,V. S. (2005), 'Study of the application of information technology for effective access to resources in Indian university libraries', *The International Information & Library Review* 37**(3):** 189-197.

Coates, D. &Humphreys, B. R. (2004). "No Significant Distance' between Face-to-face and Online Instruction: Evidence from Principles of Economics". *Economics of Education Review*.23(**6**): 533-546.

Collis, B. (1989). Using information technology to create new educational situations. (19). Paris: *UNESCO International Congress on Education and Informatics.*

Cuban, L. (2001) Overbought and oversold: Computer in the Classroom. Cambridge, Massachusetts: Harvard University Press.

Davis, N.E., & Tearle, P. (Eds.).(1999). A core curriculum for telematics in teacher training. Available: *www.ex.ac.uk/telematics.T3/corecurr/tteach98.htm*

Egomo, J. E., Enyi, B. I., & Tah, M. M. (2012). Availability and utilization of ICT tools for effective instructional delivery in tertiary institutions in Cross River State, Nigeria. *Global Advanced Research Journal of Educational Research and*

*Review.1(8).*Retrieved on 26[th]March 2016 from <http://garj.org/garjerr/index.htm> 6-12.

Etibu, A. T. (2010) ICT Availability in Niger Edo University Libraries. *Library Philosophy and Practice*. Accessed 5th June 2014 from unllib.unl.edu/LPP/etebu3.html

Eyo, E.B.E., Nkanu, W.O., & Nkebem, E. N. (2011). Incorporating ICT in library service delivery in academic libraries in Nigeria: the librarian's expectation. *The Librarian and Information Manager*, 4 **(1**): 27-44.

Fister, K. R. (2008). "Mathematics instruction and the tablet PC". *International Journal of Mathematical Education in Science and Technology*, 39(**3**): 285-292.

Flecknoe, M. (2002)."How can ICT help us to improve education"? *Innovations in Education & Teaching International*, 39(**4**): 271-280

Gay, G. & Blades, R. (2005) Information Technology for CXC CSEC. Oxford University Press, Oxford UK.

Girasoli, A. J. & Hannafin, R. D. (2008). "Using asynchronous AV communication tools to increase academic self-efficacy". *Computers & Education*, 51(**4**): 1676- 1682.

Gujbawu, B. B. (2004). Information and communication technology and rural development in Nigeria: A case study of Jigawastate. Unpublished member of the National institute (mni) *Individual Research Project*, NIPSS, kuru.

Hepp, K. P., Hinostroza, S. E., Laval, M. E. & Rehbein, L. F. (2004) "Technology in Schools: *Education, ICT and the Knowledge Society "*OECD. Available: *www1.worldbank.org/education/pdf/ICT_report_oct04a.pdf.*

Jhurree, V. (2005)"Technology Integration in Education in Developing Countries: Guidelines to Policy Makers". *International Education Journal* [Electronic], 6(**4**):467-483.Available:*http://ehlt.flinders.edu.au/education/iej/articles/v6n4/jhurree/paper.pdf.*

Kirschner, A.D., & Woperies, R.M. (2003).The Effects of Internet Use, Cell Phones and Computer Games on Mental Health of Children and Adolescents," *TAF Preventive Medicine Bulletin.* 7(**3**): 253-256.

Kozma, R. (2005), 'National Policies That Connect ICT-Based Education Reform To Economic And Social Development', *Human Technology* 1(**2**):117-156.

Kozma, R. (2004). Closing the digital divide: evaluation of the World Links program.*International Journal of Educational Development*. 24: 361–381.

Kulik, J. (2003). "Effects of using instructional technology in elementary and secondary schools: What controlled evaluation studies say (Final Report: P10446.001)". *Arlington, VA: SRI International.*

Lee, Y.L. &Nguyen, H. (2005) "So are you online yet? Distance and online education today, managing modern organizations with Information Technology, 1035-1036.

McGorry, S. Y. (2002), 'Online, but on target? Internet-based MBA courses: A case study', *The Internet and Higher Education* 5(**2**), 167-175.

Mevarech, A. R., & Light, P. H. (1992). Peer-based interaction at the computer: Looking backward, looking forward. *Learning and Instruction*, 2, 275-280.

Milken Exchange on Education Technology (1999). *Will new teachers be prepared to teach in a digital age*? Santa Monica: Milken Family Foundation. Retrieved from file http://www.mf.org/puts/ME154.pGujbawu, B. B. (2004).

Minishi- Majanja, M.K. (2007). Integration of ICTs in library and information science education in Sub – Saharan Africa. World Library and Information Congress: 73rd IFLA General Conference and Council, August, Durban, South Africa, 19 -73. Retrieve from http;//www.ifla-org/iv/ifla73/index.htm.

Morris, P. (2000). A survey of the implications of information and Communication technologies on youth employment.

Newhouse, C. O. (2002). The impact of ICT on learning and teaching. Perth: Special Education Service.

Ntukidem, E. P. & Ashi, M. M (2009). Assistive technology: Gateway to independence of persons with visual impairment. *The Exceptional Child*, 11(**2**), 345-353.

Ololube, N. P (2006). Appraising the relationship between ICT usage and integration and the standard of teacher education programmes in a developing economy. *International Journal of Education and Developing Using ICT* (Online), 2 (3), 194-212.Retrieved from file http://www.ijedict.dec.uwo.edu.viewarticle.pho?id=194on 23/4/2010.

Okebukola, P. (2006, June 8). *Quality control in Nigerian university system*. Paper presented at the annual seminar of the Association of Vice Chancellors of Nigerian Universities (AVCNU) at Cross River State University of Technology, Calabar.

Okhiria, P. (2007). ICT tertiary level education: Universities and colleges of education. Retrieved from file http://www.wikieducator.org/ICT4 Africa/country report Nigeria on18/5/2010.

Okon, A. & Jacob, E. (2002).Use of information technology by academic in selected universities in Nigeria. *Global Journal of Mathematics Science*, 2 (**1**), 57-63.

Onyeneke, C. O. (2007) Information and communication technology in library services in Tertiary institutions in Nigeria. *Heartland Journal of Library and Information Science,* 1(**2**): 50-62

Pelgrum, W. J. & Law, N. (2007), 'SITES2006—International comparative survey of pedagogical practices and ICT in education', *Education and Information Technologies* 12(**2**), 83- 92.

Petit, P. (1995). Employment and Technical Change. In Stoneman, P. (Ed.) Handbook of the Economics of Innovation and Technical Change. Blackwell, Oxford.

Philip A., Oluwagbemi O., Oluwaranti A. (2010) An Evaluation of the Impact of Information and Communication Technologies Diffusion in Nigeria's Higher Educational Institutions, *Journal of Information Technology Impact* 10 (1)

Popoola, S. O & Haliso, J. (2009) Use of library information resources and services as predictor of the teaching effectiveness of Social Scientists in Nigeria Universities. *African Journal of Library, Archival and Information Science*, 19 **(1**): 65

Salako, E. A., Solomon A. A., & Muhammed, B. A. (2015). Perception of Students on Computer Utilization and Academic Performance in the North-Central Geopolitical Zone of Nigeria. *Modern Education and Computer Science*, *4,* 53-60. Retrieved on 19th April 2016 from<http://www.mecs-press.org>.

Sanyal, B. C. (2001), 'New functions of higher education and ICT to achieve education for all', Paper prepared for the Expert Roundtable on University and Technology-for- Literacy and Education Partnership in Developing Countries, *International Institute for Educational Planning*, UNESCO, September 10 to 12, Paris.

Sharma, R. (2003), 'Barriers in Using Technology for Education in Developing Countries', IEEE0-7803-7724-9103.Singapore schools', *Computers & Education* 41(**1**), 49--63.

Unagha, A. O. (2006) Towards an Information and Communication Technology-Conscious Nigeria Society. *The Research Librarian*, 1(**1**): 75

UNESCO (2002) Information and Communication Technology in Education–*A Curriculum for Schools and Programme for Teacher Development*. Paris: UNESCO.

Valasidou A, Sidiropoulos D, Hatzis T & Bousiou-Makridou D (2005). Guidelines for the Design and Implementation of E-Learning Programmes, Proceedings of the IADIS. *International Conference IADIS E-Society* 2005, 27 June- 30 June, Qawra, Malta.

Wagner, A. D. (2001), "IT and Education for the Poorest of the Poor: Constraints, Possibilities, and Principles". *TechKnowLogia,* July/August, 48-50

Walsh, E., Gazala, M. & Ham, C. (2001). The digital divide: Facing a crisis or creating a myth? 279–284. The MIT Press: Cambridge, MA.

Windschitl, M. (2002). "Framing constructivism in practice as the negotiation of dilemmas: An analysis of the conceptual, pedagogical, cultural, and political challenges facing teachers". *Review of Educational Research*, 72 (**2**): 131–175.

Woessman, S. (2004). Information and communication technologies and the changing role of the teacher. *Journal of Educational Media*, 26(**1**): 7-17.

World Bank (2002). Enhancing learning opportunities in Africa. Washington, D. C. *International Bank for Reconstruction and Development.*

Yusuf, M. O. (2005). Integrating ICTs in Nigeria Tertiary Education. *The African Symposium: An online Journal of African Educational Research Networks*,5(**2**): 43 – 50http://www.vocabulary.com