Information Communication Technology: Are Nigeria's University Students Using It More for Social and Leisure Activities?

Eucharia O. Ejechi
Department of Sociology and Psychology
Delta State University
P.M.B. 1
Abraka, Nigeria

Abstract

The use of ICT by Nigeria's university students was investigated. Information on possession or access to laptop, desktop and cell phones and the use was obtained from 1500 students with a structured questionnaire. Prevalence of ownership/access was 100, 30.9 and 1.0%, for cell phones, laptops and desktops, respectively while the use was 100.0, 35.0 and 9.3%, respectively. Prevalence of the use of ICT for social/leisure-related activities was markedly higher than for academic work (17.1-98.1 vs 8.7-89.6%). Mature (≥30 years) and post graduate students were more likely to use ICT for academic purpose (OR, 1.57/2.41; 95% CL, 0.53-2.46/1.04-4.72; P<0.01). Younger students (<30 years) and non-postgraduate students use ICT more for social/leisure activity (OR, 2.30/6.76; 95% CL, 1.84-3.3/4.4-8.5; P<0.01). Desktop or laptop was associated with academic work (OR, 2.3; 95% CL, 1.6-3.4; P<0.05). Use of laptops by students should be encouraged to limit the distraction of social applications facilitated by cell phones.

Key Words: Information communication technology; University students; Laptops; Desktops; Cell phone.

1.0 Introduction

Technology was defined by Bernard & Pelto (1987) as "all those machines, devices and other physical apparatuses made and used by human for instrumental purposes and the physical products of those machines and devices." Technology influences the course of human life culminating in changes in human behavior, attitudes, social interaction, values and beliefs of societies (Bernard & Pelto, 1987). Information communication technology (ICT) is covered by this description because it makes use of machines and devices such as satellites, computers, internet, mobile phones and audio-visual facilities and is transforming global society. It reduces communication distance via internet, enhances dissemination of information and images and increases network of human relationships via mobile devices (e.g. Smartphone). Production and consumption activities in many parts of the world especially high-income countries largely depend on ICT. ICT is also very useful for the advancement of knowledge through teaching and research.

ICT has positive motivation impact on students (Passey, Rogers, Machel, McHugh. & Allaway, 2003; Mbah, 2010) and has been useful for promoting education by open and distant learning in low-income countries especially sub-Sahara Africa (Mwilongo, 2015; UNESCO, 2004). Several reports on the integration of ICT into teaching and learning indicated that the embedding process depends on the teacher, the subject, the students and the cultural setting (Adebayo, 2008; Yuen, Law, & Wong, 2003; Sutherland et al., 2004; TLRP 2006; Khan, Butt, & Zaman, 2003; Anon, 2011). Succinctly, the use of ICT in learning includes students' access to tutorials online, carrying out assignments, PowerPoint presentations, graphical illustrations, tables, texts, statistical analyses and access to diverse sources of information. It also promotes interaction among students in sharing ideas, information and publications. In addition to education, ICT is also used by students for social interaction and leisure (Selwyn, 2008; Corrin, Bennett & Lockyer, 2010; Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Edmunds, Thorpe & Conole, 2012; Okoye 2012). However, it is common knowledge that advances in science and technology usually leaves trails of misuse and abuse with attendant negative impact on the society. Recent events indicate that ICT is not immuned to this bug of negativism because of the social use.

Internet and mobile phone-based social interaction has steadily become popular in the last two decades. This was facilitated by e-mail and various chatting and networking sites such as WhatsApp, Facebook, Twitter, Instagram, YouTube, LinkedIn etc. Entertainment websites for movies, music and pornography abound in the internet and they attract young people including university students. It has been reported that students' academic use of internet is often intertwined with leisure use (Marriott, Marriott & Selwyn, 2004; Usun, 2003; Walmsley, White, Eynon, & Somerfield, 2003; Selwyn, 2008). This is a source of distraction from learning and recent studies showed that it had negative impact on students' academic performance (Sanchez-Martinez & Otero, 2009; Jacobsen & Forste, 2011; Stollak, Vandenberg, Burklund, & Weiss, 2011; Hong, Chiu, & Hong, 2012; Junco, 2012; Rosen, Carrier, & Cheever, 2013). These empirical studies were conducted in Europe, Asia and USA. There is paucity of information on the use of ICT by university students in sub-Sahara Africa and the gap needs to be filled.

The use of ICT in libraries and universities in Nigeria is steadily increasing (Krubu & Osawaru, 2011; Ogunsola & Aboyade, 2005). However, the extent of the social use of ICT for leisure-related activities by university students in the country is yet to be assessed. Although Olaore (2014) mentioned the likely negative impact of ICT on teachers and students in Nigeria based on patronage of social network sites, he did not provide empirical evidence. The other sub-Sahara Africa-based studies on ICT cited earlier, focused on teaching. It is obvious that excessive social/leisure use of ICT can distract students from learning. It also raises issues of promoting immorality because adolescents who are in their impressionable age are frequently exposed to "violent" action movies and pornography. It is therefore necessary to know the extent to which the social use of ICT has permeated the life style of Nigerian students as a prelude to formulating mitigation measures. Thus the questions to be addressed in this study are: how prevalent is the use of ICT tools (desktop and laptop computers, cell phone) among Nigeria's university students?; do the students use these ICT devices more for social/leisure activities than for academic purpose?; and is there any relationship between ICT usage and the students socio-demographic background? Policy makers charged with the responsibility of formulating and implementing guidelines for good education may find the answers useful.

2.0 Method

2.1 *Data Source*

The data was collected with a structured self-completion questionnaire containing sections on ownership or access to laptop and desktop computers, and cell phones; use of ICT for social and academic purposes; and socio-demographic characteristics (gender, age, academic programme, class level and residence). A total of 2000 questionnaires were distributed randomly to students in 10 Nigerian universities and 1500 were returned with the questions answered as instructed. Students were engaged for the distribution exercise in order to put the student respondents "at ease" and gain their confidence when attending to the questionnaires. Verbal consent of the students was obtained before the questionnaires were administered.

2.2 *Measures*

A focus group discussion comprising of 12 students comprising of: non-graduating, 3; graduating (final year), 3; post graduate, 3; and non-degree programmes, 3 as participants identified 12 social/leisure and academic applications/programmes that are commonly used by students (Table 1). The student respondents were requested to indicate "Yes" or "No" in response to the question: "do you use or patronize the ICT applications/programmes listed below?" The respondents were also requested to indicate "Yes" or "No" to the question: do you own or have access to ICT devices (desktop computer, laptop computer and cell phone)?

2.3 *Data analyses*

Prevalence of ICT usage was computed by percentage based on the number of "Yes" answers. A similar procedure was also used to compute the prevalence of ownership/access to ICT devices. Logistic regression was used to analyse the relationship between respondents' socio-demographic characteristics and use of ICT applications with "Yes" and "No" as outcome dependent variables coded 1 and 0, respectively. A similar procedure was also used for the data on ownership/access to ICT devices. SPSS version 21 was used for the statistical analyses.

3.0 Results

As presented in Table 2, non-graduating students were more than two-thirds of the sample population while students studying for Bachelor's degree dominated the academic programme. Students living outside the campuses (off-campus) were more than two-thirds of the sample population. The male students were more in number than the females by slightly more than 10% while those aged 21-29 years were nearly 50% of the sample size. Very few students owned or had access to desktop computers and prevalence of the use of desktops was correspondingly low (Table 3). The prevalence of ownership or access to laptops or the use was low, but markedly higher than that of desktops (Table 3). On the other hand, there was no student respondent that does not use or possess cell phones (Table 3). The prevalence of the use of ICT for academic work was generally low when compared to social applications (Figure 1). Microsoft PowerPoint and statistical tools were used sparingly as indicated by the prevalence that was lower than 12% while the use of ICT for "information search" was the highest with a prevalence of nearly 90% (Figure 1). The use of other academic applications tended to be average (Figure 1). Compared to academic works, prevalence of the use of ICT for social/leisure activities was markedly higher with prevalence exceeding 55% except internet banking (Figure 1). Patronage of social network sites was the most prevalent (nearly 100%) while music and video downloads followed as shown in Figure 1.

The logistic regression analyses of the relationship between background characteristics and use of ICT showed that mature (≥30 years) students and post-graduate students were significantly more likely to use ICT tools for academic purpose than for social/leisure activities (Table 4). The analyses further revealed that male students were significantly less likely to use ICT for both academic and social activities than their female counterparts while graduating students (final year) were significantly less likely to use ICT for social purposes than the non-graduating students (Table 4). On the other hand Bachelor's degree students were significantly associated with social use of ICT, but not for academic work while on-campus resident students were significantly more likely to use ICT for both academic and non-academic purposes than off-campus students (Table 4). Logistic regression analyses also showed that it was only the relationship between post-graduate students and ownership/access to laptop/desktop computer that was significant (OR, 2.3; 95% CL, 1.6-3.4; $P<0.05$) among the socio-demographic variables.

4.0 Discussion

Students own and commonly use cell phones because it is portable, "mobility-friendly" and cost much less than laptop or desktop computers. The high prevalence of the use of cell phones for sending and receiving messages and video/music download is consistent with the report of Lepp, Li, & Barkley (2015). The report indicated that students see cell phones as devices for pleasure and so spend time social networking, listening to music, watching video and playing games. Thus the likelihood of a reduction in the time spent for academic use of ICT is indicated. The academic application commonly used by students is predominantly to search for information as the study revealed. This is understandable because the students need to do their assignments and prepare their dissertations. Other applications except e-mail for exchange of information, were poorly utilized hence the students patronise private commercial "business/computer centers" that are common within and around Nigerian university campuses.

Mature or research degree students use ICT more for academic works than Bachelor or non-degree students, because their academic programmes require consistent search for information, data analyses, and presentation of research findings leaving them with little time for pleasure. The desktop or laptop computer becomes convenient for them because the large screens encourage typing, PowerPoint presentations, drawings, graphs, statistical analyses and reading online, which is not convenient with the smaller screen of cell phones. This category of students is usually few hence the prevalence of the use or ownership of laptop or desktop is low. This explanation is corroborated by the observation that ownership/use of laptop or desktop computer is significantly associated with post-graduate students. The finding that final year students were less likely to use ICT for social activities than non-graduating students can also be attributed to their academic work load. They undertake project works that require them to search for information, make interpretations and presentations that may involve computer applications. The younger or non-graduating students that used ICT significantly more for social/leisure purposes were more than 70% of the entire sample population. The dominance of this category of students in the sample population tilted the overall assessment of the use of ICT by students towards social/leisure applications, off- or on-campus residence notwithstanding.

However, on-campus students tended to use ICT applications better because their off-campus colleagues face more distractions from the activities of non-students with whom they share facilities. With regards to gender, the finding that males were less likely to use ICT (academic and social) than females is an indication that the old order of males dominating the use of ICT (Sutton, 1991) is changing. The inequity is disappearing (Mossberger, Tolbert, & Stansbury, 2003; Selwyn, 2008).

The advent of Smartphone technology with android devices popularised mobile devices and reduced the use of desktop or laptop computers that ought to be more suitable for academic work. It is common to see students in classrooms, buses and relaxation spots glued to their phones "pinging", "chatting" or downloading music, video or pornography. These leisure-based activities have also been observed in other countries (Marriott, Marriott, & Selwyn, 2004; Usun, 2003; Walmsley, White, Eynon, & Somerfield, 2003; Selwyn, 2008). These distractions are likely to lower students' academic performance (Lepp, Barkley & Karpinski, 2015). Although the findings were not corroborated with the students' academic performance, the likelihood of its negative effect on academic performance among Nigeria's university students cannot be overlooked given the outcome of related investigations by Stollak, Vandenberg, Burklund, & Weiss (2011) and Lepp, Barkley & Karpinski (2015).

A limitation of this study is that the findings were not corroborated with student respondents' academic performance. Attempts at obtaining the students' academic records from the universities were unsuccessful because the authorities insisted on getting the students consent. Except the author's students, majority of the students in the sample were unwilling to give their consent despite assurances of strict confidential use.

5.0 Conclusion

The study revealed that cell phones are commonly used by Nigerian university students while desktop or laptop computers are sparingly used. These ICT devices particularly cell phones tended to be used more for social/leisure activities than academic purposes. This constitutes a distraction from learning and typifies societal problems that usually accompany advances in science and technology. The finding that laptop/desktop computer users performed greater academic work suggests the need to encourage possession or adequate access to desktop or laptop computers by students. Nigeria's Higher Education Ministries and Agencies may need to find ways of making laptop computers available to students at cheaper costs in order to promote the use of internet for learning and reduce the negative use.

6.0 References

Adebayo, F. A. (2008). Usage and challenges of Information Communication Technology in teaching and learning in Nigerian Universities. *Asian Journal of Information Technology*, *7*(7), 290-295.

Anon (2011). *Smart Classrooms: Teaching and Learning with ICT*. Part 3, October 2011. Retrieved from http://education.qld.gov.au/smartclassrooms

Bernard, H. R. & Pelto, P. J. (1987). Technology and anthropological theory. In: H. R. Bernard, & P. J. Pelto. (editors), *Technology and social change*, 2nd. Edition (pp 359-368). Prospect Heights, Illinois: Waveland Press.

Corrin, L., Bennett, S. & Lockyer, L. (2010). Digital natives: Everyday life versus academic study. In L. Dirckinck-Holmfeld, V. Hodgson, C. Jones, D. McConnell & T. Ryberg (Eds) *Proceedings of the 7th International Conference on Networked Learning*, Aalborg 3-4th May 2010.

Edmunds, R., Thorpe, M. & Conole, G. (2012). Student attitudes towards and use of ICT in course study, work and social activity: A technology acceptance model approach. *British Journal of Educational Technology*, *43*(1), 71–84.

Gikas, J. & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. *The Internet and Higher Education*, *19*(13), 18–26.

Hong, F. Y., Chiu, S. I. & Hong, D. H. (2012). A model of the relationship between psychological characteristics, mobile phone addiction and use of mobile phones by Taiwanese university female students. *Computers in Human Behavior*, *28*, 2152-2159.

Jacobsen, W. C. & Forste, R. (2011). The wired generation: Academic and social outcomes of electronic media use among university students. *Cyberpsychology, Behavior, and Social Networking*, *14*, 275-280.

Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education*, *58*(1), 162–171.

Khan, S. M., Butt, M. A. & Zaman, M. (2003). ICT: Impacting Teaching and Learning *International Journal of Computer Applications, 61*(*8*), 7-10.

Krubu, D. E., & Osawaru, K. E. (2011). The impact of information and communication technology (ICT) in Nigerian University Libraries. *Library and Philosophy Practice*. Retrieved from http://unilib.unl.edu/LPP/

Lepp, A., Li, J. & Barkley, J. (2015). Exploring the relationships between college students' cell phone use, personality and leisure. *Computers in Human Behavior*, *43*, 210–219.

Lepp, A., Barkley, J. E. & Karpinski, A. C. (2015). The relationship between cell phone use and academic performance in a sample of U.S. college students. *SAGE Open*, 1-9. DOI: 10.1177/2158244015573169

Marriott, N., Marriott, P. & Selwyn, N. (2004). Accounting undergraduates' changing use of ICT and their views on using the internet in higher education. *Accounting Education*, *13*(1), 117–30.

Mbah, T. B. (2010). The impact of ICT on students' study habits. Case study: University of Buea, Cameroon. *Journal of Science and Technology Education Research*, *1*(5) 107 – 110

Mossberger, K., Tolbert, C. & Stansbury, M. (2003). *Virtual Inequality: Beyond the Digital Divide*. Washington, DC: Georgetown University Press.

Mwilongo, K. J. (2015). Reaching all through Open and Distance Learning in Tanzania**.** *International Journal of African and Asian Studies*, *7*, 24-32

Ogunsola, L. A., & Aboyade, W. A. (2005). Information and communication technology in Nigeria: Revolution or evolution. *Journal of Social Sciences, 11*(1), 7-14.

Okoye, M. O. (2012). Social Implications of ICTs: Views of Academic Librarians in Nigeria. *Library Philosophy and Practice*, *Paper 821*. Retrieved from http://digitalcommons.unl.edu/libphilprac/821

Olaore, I. B. (2014). The impacts (positive and negative) of ICT on education in Nigeria. *Developing Country Studies*, *4*(23), 154-156

Passey, D., Rogers, C., Machel, J., McHugh, G. & Allaway, D. (2003). *The motivational effect of ICT on pupils: Emerging findings.* Sherwood Park, Annesley Nottinghamshire: DFES publications. Retrieved from www.dfes.gov.uk/ictinschools.

Roblyer, M. D., McDaniel, M., Webb, M., Herman, J. & Witty, J. V. (2010). Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *The Internet and Higher Education*, *13*(3), 134-140.

Rosen, L. D., Carrier, M., & Cheever, N. A. (2013). Facebook and texting made me do it: Media-induced task-switching while studying. *Computers in Human Behavior*, *29*, 948-958.

Sanchez-Martinez, M. & Otero, A. (2009). Factors associated with cell phone use in adolescents in the community of Madrid (Spain). *CyberPsychology and Behavior*, *12*, 131-137.

Selwyn, N. (2008). An investigation of differences in undergraduates' academic use of the internet. *Active Learning in Higher Education*, *9* (1), 11-22. Retrieved from https://hal.archives-ouvertes.fr/hal-00571967.

Stollak, M. J., Vandenberg, A., Burklund, A. & Weiss, S. (2011). Getting social: The impact of social networking usage on grades among college students. In *Proceedings from ASBBS Annual Conference* (pp. 859-865). Retrieved from: http://asbbs.org/files/2011/ASBBS2011v1/PDF/S/StollakM.pdf

Sutherland, R., Armstrong, V., Barnes, S., Brawn, R., Breeze, N. Gall, M., Matthewman, S., Olivero, F., Taylor, A. Triggs, P., Wishart, J. & Johnw, P. (2004). Transforming teaching and learning: Embedding ICT into everyday classroom practices. *Journal of Computer Assisted Learning*, *20*, 413–425.

Sutton, R. (1991). Equity and computers in the schools: A decade of research. *Review of Educational Research, 61*(4), 475–503.

Teaching & Learning Research Programme (TLRP) (2006). Using computers to enhance learning: Integrating ICT into everyday classroom practices. Teaching & Learning Research Programme, Institute of Education University of London WC1H 0AL UK. Retrieved from www.tlrp.org

UNESCO (2004). Information and Communication Technologies usage in higher distance education in Sub-Saharan Africa: National and regional state−of−the−art and perspectives. Moscow: UNESCO Institute for Information Technologies in Education,

Usun, S. (2003). Educational uses of the internet in the world and Turkey: A comparative review. *Turkish Online Journal of Distance Education 4*(3). Retrieved from http://tojde.anadolu.edu.tr/tojde11.index.htm

Walmsley, A., White, D., Eynon, R. & Somerfield, L. (2003). The use of the internet within a dental school. *European Journal of Dental Education* 7(1), 27–33.

Yuen, H. K., Law, N. W. Y. & Wong, K. C. (2003). ICT implementation and school leadership: Case studies of ICT integration in teaching and learning. *Journal of Educational Administration, 41*(2), 158-170. Retrieved from http://hdl.handle.net/10722/42273

Table 1: The ICT applications commonly used by university students

Use	Application/programme
Academic	Microsoft word
	Microsoft Excel
	Microsoft PowerPoint
	Statistics soft ware (e.g. SPSS)
	Information search (e.g. Google scholar)
	Exchange of information via E-mail
Social/leisure	Social network sites (e.g. Facebook)
	Music download
	Video download
	Porn sites
	E-game
	Internet banking

Table 2: Socio-demographic characteristics of student respondents

Variables	Respondents	
	N=1500	%
Age		
≤20	508	33.9
21-29	702	46.8
≥30	290	19.3
Academic programme		
Non-degree	225	15.0
Bachelor	1005	67.0
Post-graduate	270	18.0
Class		
Non-graduating	1215	81.0
Graduating	285	19.0
Residence		
Off-campus	1116	74.4
On-campus	384	25.6
Gender		
Female	650	43.3
Male	850	56.6

Table 3: Ownership/access and use of ICT tools (*N*=1500)

Tools	Ownership/Access	Usage [n(%)]	
	[n(%)]	No	Yes
Desktop computer	15(1.0)	1360(90.7) 975(65.0)	140 (9.3)
Laptop computer	464(30.9)	0 (0.00)	525 (35.0)
Cell phone	1500(100.0)	NA	1500 (100.0)
None	0		NA

NA, not applicable; *N*=1500.

Table 4: Logistic regression analyses of the association between background demographic factors and the use of ICT applications

Variables		Academic use		Social use	
		Odds ratio	95% CL	Odds ratio	95% CL
Age	≤20	1		1	
	21-29	1.35	0.36-2.01	2.31*	1.84-3.3
	≥30	1.57*	0.53-2.46	0.68	0.18-2.05
Gender	Female	1		1	
	Male	0.01*	0.05-0.20	0.11*	0.04-0.31
Academic programme					
Non-degree		1		1	
Bachelor		1.00	0.50-3.21	6.76*	4.4-8.5
Post-graduate		2.41*	1.04-4.72	1.31	0.31-2.55
Class	Non-graduating	1		1	
	Graduating	0.12	0.03-0.32	0.05*	0.01-0.21
Residence	Off-campus	1		1	
	On-campus	4.00*	2.13-7.50	2.96*	1.29-4.79

*P<0.01

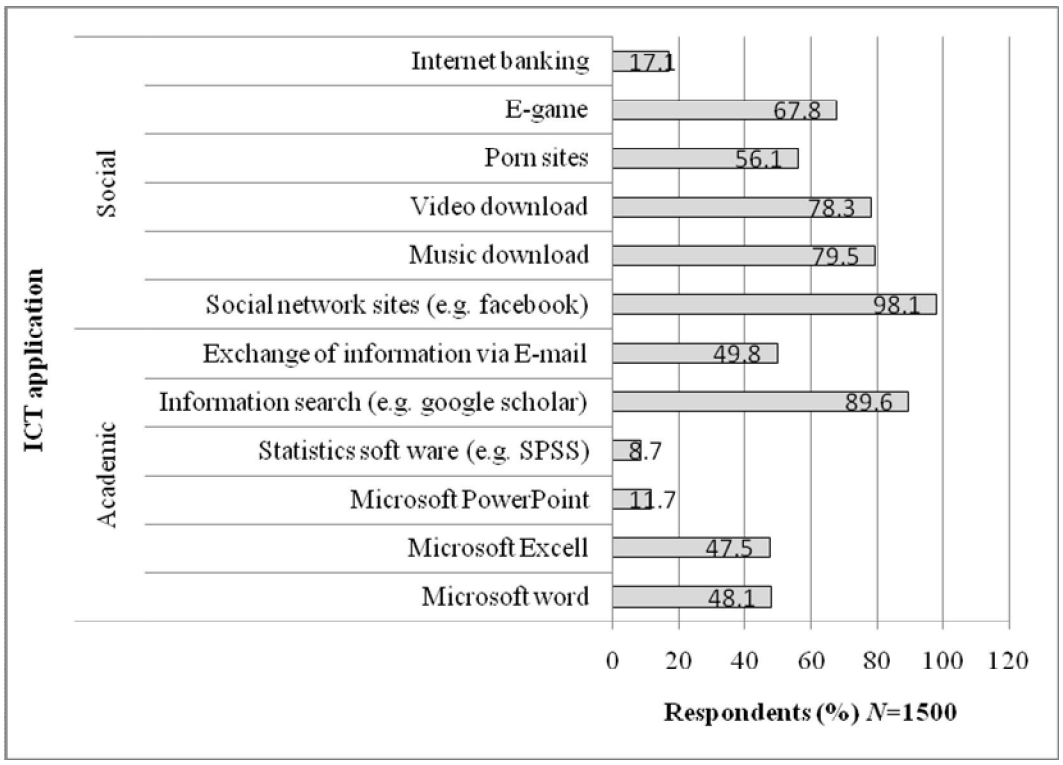

Figure 1: Prevalence of Academic and Social Use of ICT