
**Acquisition of Information Communication Technology Skills for Teaching Effectiveness
among Academic Staff in Colleges of Education in Nigeria**

BY

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ABSTRACT

The study sought to assess acquisition of information communication technology skills for teaching effectiveness among academic staff in Colleges of Education in Nigeria. The study adopted Expost-Facto research design. The study area was Nigeria. Two objectives were drawn to guide the study: to ascertain the relationship between social media communication skills and teaching staff effectiveness; to establish the relationship between e-mail communication skills and teaching staff effectiveness. Two research questions and hypotheses were reviewed and used in the study. The population of the study consisted of teaching staff in Colleges of Education in Nigeria. The sample size of this study constituted 324 respondents. This sample size was obtained through simple random sampling technique. The instrument used in this study was a research questionnaire tagged: "Information and Communication Technology Skills for Teaching Effectiveness Questionnaire (ICTSTEQ)". The instrument was face and content validated, which was done by one expert in test, measurement and evaluation and one expert in information and communication technology. Cronbach Alpha technique was used to determine the reliability of the instrument. The reliability coefficient obtained was 0.80 and this was high enough to justify the use of the instrument. The results of the statistical analysis for the hypotheses were tested for significance at 0.05 alpha levels. The study revealed that there is significant relationship between social media communication skills and teaching staff effectiveness. It also revealed that there is significant relationship between e-mail communication skills and teaching staff effectiveness. It was therefore recommended that government of Nigeria should embark on a massive computer literacy training programme nation-wide particularly for teachers and learners at all levels and that this should be accomplished through in-service training for teachers, workshops, seminar, and conference.

KEYWORDS: Information and Communication Technology, Skills, Teaching Effectiveness, Academic Staff, Colleges of Education, Nigeria

Introduction

Information Communication Technologies (ICT) is important for sustainable development in developing countries. For many decades now, most developed countries have witnessed significant changes that can be traced to Information Communication Technologies (ICTs) (Thoiune, 2003). Social media has emerged as a term frequently used (and variously defined) to describe different types of communication platforms and electronic ways of interacting. Alex (2017), who defined social media as being technologies that facilitate social interaction make possible collaboration and enable deliberations across stakeholders. Utilizing this definition, social media includes tools as electron blogs, audio/ video tools (e.g. you tube, internet chat rooms such as twitter, cellular and computer texting and social networking sites). This research is primarily concerned with the use of social media through social networking sites (SNS).

Electronic mail (e-mail) is the exchange of text messages and computer files transmitted via/communications networks such as the Internet (Nwosu, 2004). E-mail system is equivalent to postal mailing services, with the biggest difference being the time and cost involved. Not only written data but all sorts of information in the form of video, audio, or photographs can be sent via e-mail as well. Oketunji (2000) describes e-mail as an increasing popular method of communication, especially in the workplace. The Internet is a global collection of many types of computers and computer networks that are linked together. It is increasingly becoming the solution to many problems, information exchange, and marketing. Internet is a mixture of many services with the two most commonly used being electronic mail (e-mail) and the World Wide Web (www). It plays a significant role in education, health, political processes, agriculture, economy, businesses and newsgroups.

Statement of the Problem

The benefits of skill acquisition in information and communication technology (ICT) are numerous. People who had been trained on ICT have many success stories to tell. These skills include Social media communication skills, E-mail communication Skills etc. It is quite unfortunate that many teachers are yet to be ICT compliant in his era of information age. They deprive themselves of the benefits of being ICT compliant. It is very evident that today, documents are created through computer by sending e-mails, doing electronic banking transactions and preparing articles on personal computers or laptops. Teachers who deprive themselves on the use of ICT compliant are also observed not to be effective in their teaching skills over the years. This is due to the fact that, they are not vested with the use of internet and as such can adversely affect their use of e-mail and Social media communication in sending questions and answers to their students. Thus, this study seeks to determine the level of acquisition of Information Communication Technology skill as Social media communication skills and E-mail communication Skills among academic staff in colleges of education in Nigeria for teaching effectiveness.

Purpose of the Study

1. To ascertain the relationship between social media communication skills and teaching staff effectiveness.

2. To establish the relationship between e-mail communication skills and teaching staff effectiveness.

Research Questions

1. What is the relationship between Social media communication skills and teaching staff effectiveness?
2. To ascertain the relationship between e-mail communication skills and teaching staff effectiveness?

Research Hypotheses

1. There is no significant relationship between social media communication skills and teaching staff effectiveness.
2. There is no significant relationship between e-mail communication skills and teaching staff effectiveness.

Conceptual Review

Social Media Communication Skills and Teaching Effectiveness

In terms of daily collective use of all media, a study found that those born between 1965-1979 (generation) consumed approximately 13 hours of social media per day; those born between 1980 to 1989 (net generation) consumed approximately 9 hour of social media per day; and those born between 1990 to 1999 (1 generation) consumed approximately 20 hours of social media per day (Rosen, 2011). These figures represent self-reported collection use of all forms of social media including television, cell phone usage, internet usage, computer tablets, laptops, music I pads, texting and social networking sites.

The term social networking sites (SNS) generally refers to internet-based locations that individuals and groups interact. Social networking sites (SNS) specifically refers to those internet based services that promote online social interaction between two or more persons within a bounded system for the purpose of friendship, meeting people and or exchanging information. It lets users create public or semipublic personal profile pages that contain information of their own choice. It serves as a mechanism to communicate with other users, and contains mechanism that allows users to search for other users according to some specific criteria (Boyd and Ellison 2007). Sites such as twitters, facebook, and my space are good examples of SNS that meet the previously stated criteria. The use of social networking sites have grown significantly since 2000 with estimates of nearly 78% of adult using the internet regularly, teenagers at 18 years and above at 65% using social networking sites.

According to Komblum (2009), Twitter social networking is a relatively new trend having a population mostly made up of secondary school students and college students. Komblum, (2009) further explained that the online world has changed the way many students grow up and live today, and this change has both good and bad effect. She further says that if students are asked to be identified in those that have twitter account and those that do not, that four out of five will claim to have one. It is easier to get distracted by the various social media networking sites. Students are more likely to be faced with the temptation of surfing the web, chatting with friends

and visiting the various social and media websites rather than focus on getting their school work done in time. For a secondary school student, the negative effects of social media networking sites on academic performance include:

Decrease in productivity: David (2014) asserts that social media networking sites decrease productivity as so many students end up spending the better part of their study hours checking those sites. Rather than get their assignments done, they spend the whole time either tweeting or posting messages on facebook. There is bound to be a reduction in students focus of attention when they are studying and at the same time trying to get involved in activities on these social sites. This often time causes a drastic reduction in their academic performance.

Encourages Poor Grammar usage: Not only does the active involvement in the social sites encourage the poor use of grammar but also spellings, as students mostly use slang or shortened forms of words. Using twitter as an example, twitter limits its users to the use of 140 characters. Therefore users will have no other option than to abbreviate their words as much as they can, just to enable their thoughts fit into the 140 character provision.

There is, after all, only so much information that can be obtained in 140 characters. While the option to dig deeper may be present through embedded links in Tweets, for example, there may be little reward in pursuing those connections for students. As a result of the excessive use of abbreviated words and slang by students on social networks, they start to rely on the computer grammar and spell checkers on their devices. This results in the reduction of their command over English language and their writing skills (David, 2014).

Reduction in research capabilities: Learning and research capabilities have experienced drastic low reduction as a result of students relying more on the information accessible easily on these social networking sites and web in general.

Ibrahim (2012) posited that most students prefer being on the twitter site than reading their books. Students are often being observed during school time in the various hiding places either discussing social networks or browsing with their phones. Twitter users often time experience poor performance academically. Similarly, Englander (2010), posit that social media is negatively associated with academic performance of student and is a lot more momentous than its advantages. Internet addiction consequently gave rise to internet usage within the last couple of decades. The effect of twitter social networking sites on the academic performance of secondary school students worldwide can be local from both positive and negative perspectives. Twitter social networking sites according to Janet, (2010) explains further that twitter social networking sites gives students the opportunity to communicate with their friends and others who they share the same interests. The opposite view on the subject would be that students are too connected using the internet more than necessary. Students who spend much of their time in internet usage find it difficult to concentrate in the classroom.

According to Junco (2010), Social Media is a collection of internet websites, services, and practices that support collaboration, community building, participation, and sharing. The growing dimension of the use of social media among the youth of today cannot be over emphasized. Over the years, social networking among secondary students has become more and more popular. It is a way to make connection not only in school, but with friends outside of school. Social networking is a way that helps many people feel as though they belong to a

community. Due to the increased popularity of it, economists and professors are questioning whether grades of students are not being affected by how much time is spend on these sites.

E-mail communication Skills and Teaching Effectiveness

Skills in e-mail are very important in contributing to the establishment of global information networks. According to UNDP Report (2000/2001), the Internet penetration for Nigeria is still very low. Internet connectivity was only 750,000 subscribers in 2004 while South Africa had 3.1 million by the same year. It has been noted by the UNDP that: Developing the capacity to integrate computer (Internet) into the national economy intersectional links, depends on skilled people and skilled people are the product of massive investment in education and training. Since the government of Nigeria is not doing this, the nation's capability to partake in the Internet globalization scheme is at stake. High-level skill is necessary for all users of the Internet facilities so that they can utilize the service/systems effectively (Gorgone, 2002).

There is pressure on teaching staff to respond to changes produced by the increasing globalisation of business markets, and the capacities of Information and Communication Technologies (ICTs) to transform the ways business is delivered. Teachers are under considerable pressure from quality assurance agencies, and their local managements to innovate using ICTs. Knowledge and skills have to be developed among end-users in the following areas (Spender and Dale 2000):

- Use of Internet (ICT) services and systems effectively and independently.
- Establishment and sustenance of effective, efficient application and data management and systems maintenance.
- Contributing to the specification, design and implementation of Internet (ICT) application.

The Human Development Report of the United Nations Development Program or UNDP (2001) states that "ICT is a pervasive input to almost all human activities. It breaks barriers to human development in at least three ways: by breaking barriers to knowledge, by breaking barriers to participation and by breaking barriers to economic opportunity." Even in the daily lives of administrators and guidance counselors, the rapid advances in ICT can create new things such as storing information, retrieving information, handling, distributing and utilizing information. The advancement of ICT according to Ocampo (2002) is intertwined with globalization and together creates a new paradigm called the network age. Masagca (2002) report that the accountability of office administration in integrating e-mail communication skills in the workplaces must be greatly considered so that effectiveness and efficiency could be ensured. It is viewed that every action or any effect rendered will be the concern of the administrator.

Understanding the skill sets required of IT personnel is a critical endeavor for both business organizations and academic or training institutions. Cappel (2001-2002) said companies spend crucial resources training personnel, particularly new IT employees, and educational institutions must know what skills are essential in order to plan an effective curriculum. Rapid advances in technology, as well as changing IT practices, alter the importance of particular skills for IT professionals over time and therefore necessitate that frequent updates be performed. When

entry-level IT personnel do not possess the skills to effectively perform their duties, organizations face increased training demands, poor performance and efficiency, and increased turnover. Understanding the skill sets required of entry-level personnel is critical to both organizations and the institutions that train them (Turner, 2004). For businesses, it is important for both training and hiring perspectives. Hiring properly trained individuals allow organizations to spend less time preparing new staff, thus more efficiently incorporating them into the workplace. For colleges, universities, and technical institutions, understanding the required skill sets is critical for curriculum maintenance and development. In contrast, several investigations have suggested that technical skills are more imperative (Koong, Liu, and Liu, 2002; Lee et al., 2001).

According to Laudon and Laudon (2004), Information technology (IT) professionals constitute one of the greatest cadres of knowledge workers in modern organizations today. Knowledge workers make up over one-half of the US workforce and include IT professionals such as programmers, analysts, database administrators, web designers, and network specialists. These facts notwithstanding, the IT field has long been plagued by high turnover and late project delivery dates. In a survey of 217 Chief Information Officers, 59% reported inadequate staffing levels and a high average turnover rate of 37%. One of the factors leading to these problems is that potential IT employees are inadequately prepared (Fang, Lee, and Koh, 2005).

According to Benson (2008), study workers trained on teleconferencing for work that is comparatively complex, analytic, and abstract. In the study, appropriate statistical tools were used on the sample sizes of 550 respondents that generate symbolic representations of physical phenomena and found out that sometimes people often do not understand and may undervalue need for such training. Thus human resources professionals will need to sensitize people in order to appreciate the need for the training. Learning mediated by videoconferencing lead to a higher degree of interaction with the teacher, linked to more efficient learning and to a higher degree of collaboration between learners than face – to – face learning. However, O’connail et al, (2003) showed that the interaction between the learners and the trainers was more like a face – to – face interaction in a leaner videoconferencing system than in a richer videoconferencing system.

Palmer (2000) conducted a telephonic survey on e-office Management Skills in Ghana. He discovered that e-office Management is seen as a part of the services of administrative officers. In most cases, records management is taught as a unit or module in library and information departments at South African universities such as RAU, UNISA and UNIZUL.

Methods

Expost-Facto research design was adopted for the study. The study was conducted in Nigeria. The population of the study comprises of teaching staff in Colleges of Education in Nigeria. Simple random sampling technique was used to select 324 respondents that constituted the sample size for the study. The instrument used in this study was a research questionnaire tagged: “Information and Communication Technology Skills for Teaching Effectiveness Questionnaire (ICTSTEQ)”. The instrument was face and content validated, which was done by one expert in test, measurement and evaluation and one expert in information and communication technology. Cronbach Alpha technique was used to determine the reliability of the instrument. The reliability coefficient obtained was 0.80 and this was high enough to justify the use of the instrument. The

researcher subjected the data generated for this study to appropriate statistical techniques such as descriptive statistics and Pearson product moment correlation analysis. The test for significance was done at 0.05 alpha levels.

Results

Research Question One

The research question sought to find out the relationship between social media communication skills and teaching staff effectiveness. In order to answer the research question, descriptive analysis was performed on the data collected as shown in table 1.

Table 3: Descriptive analysis of the relationship between social media communication skills and teaching staff effectiveness

Variable	N	Arithmetic mean	Expected mean	R	Remarks
Social media communication skills	324	15.62	12.5	0.96*	*Strong to perfect relationship
Teaching staff effectiveness		17.43	12.5		

Source: Field Survey

The above table 1 presents the result of the descriptive statistics of the relationship between social media communication skills and teaching staff effectiveness. The two variables were observed to have strong to perfect relationship at 96%. The arithmetic mean for social media communication skills (15.62) was observed to be greater than the expected mean score of (12.5). In addition to that, the arithmetic mean for teaching staff effectiveness (17.43) was observed to be higher than the expected mean score of 12.5. The result therefore means that there is remarkable relationship between social media communication skills and teaching staff effectiveness.

Research Question Two

The research question sought to find out the relationship between e-mail communication skills and teaching staff effectiveness. In order to answer the research question, descriptive analysis was performed on the data collected as shown in table 2.

Table 2: Descriptive analysis of the relationship between e-mail communication skills and teaching staff effectiveness

Variable	N	Arithmetic mean	Expected mean	R	Remarks
E-mail communication skills	324	13.65	12.5	0.78*	*Strong to perfect relationship
Teaching staff effectiveness		17.43	12.5		

Source: Field Survey

The above table 2 presents the result of the descriptive statistics of the relationship between e-mail communication skills and teaching staff effectiveness. The two variables were observed to have strong to perfect relationship at 78%. The arithmetic mean for e-mail communication skills (13.65) was observed to be greater than the expected mean score of (12.5). In addition to that, the arithmetic mean for teaching staff effectiveness (17.43) was observed to be higher than the expected mean score of 12.5. The result therefore means that there is remarkable relationship between e-mail communication skills and teaching staff effectiveness.

Hypotheses Testing

Hypothesis One

The null hypothesis states that there is no significant relationship between social media communication skills and teaching staff effectiveness. In order to test the hypothesis, Pearson Product Moment Correlation analysis was used to analyze the data (see table 3).

TABLE 3: Pearson product moment correlation analysis of the relationship between social media communication skills and teaching staff effectiveness

Variable	$\sum X$	$\sum X^2$	$\sum XY$	r
Social media communication skills (X)	5069	80025	90163	0.96*
Teaching staff effectiveness (Y)	5717	101597		

***Significant at 0.05 level; df = 322; N = 324; Critical r-value = 0.113**

The above table 3 presents the obtained r-value (0.96). This value was tested for significance by comparing it with the critical r-value (0.113) at 0.05 level with 322 degree of freedom. The obtained r-value (0.96) was greater than the critical r –value (0.113). Hence, the result was significant, meaning that there is significant relationship between social media communication skills and teaching staff effectiveness. The result is therefore in agreement with Junco, (2010) who avowed that social Media is a collection of internet websites, services, and practices that support collaboration, community building, participation, and sharing. It is a way to make connection not only in school, but with friends outside of school. Social networking is a way that helps many people feel as though they belong to a community. The significance of the result caused the null hypothesis to be rejected while the alternative one was retained.

Hypothesis Two

The null hypothesis states that there is no significant relationship between e-mail communication skills and teaching staff effectiveness. In order to test the hypothesis, Pearson Product Moment Correlation analysis was used to analyze the data (see table 4).

TABLE 4: Pearson product moment correlation analysis of the relationship between e-mail communication skills and teaching staff effectiveness

Variable	$\sum X$	$\sum X^2$	$\sum XY$	r
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	ΣY	ΣY^2		
E-mail communication skills (X)	4421	61045		
Teaching staff effectiveness (Y)	5717	101597	78729	0.78*

***Significant at 0.05 level; df = 322; N = 324; Critical r-value = 0.113**

The above table 4 presents the obtained r-value (0.78). This value was tested for significance by comparing it with the critical r-value (0.113) at 0.05 level with 322 degree of freedom. The obtained r-value (0.78) was greater than the critical r –value (0.113). Hence, the result was significant, meaning that there is significant relationship between e-mail communication skills and teaching staff effectiveness. The result is therefore in agreement with UNDP Report (2000/2001), skills in e-mail is very important in contributing to the establishment of global information networks. The accountability of office administration in integrating e-mail communication skills in the workplaces must be greatly considered so that effectiveness and efficiency could be ensured (Masagca, 2002). The significance of the result caused the null hypothesis to be rejected while the alternative was retained.

Conclusion

It is indeed interesting to note that due to the introduction of computer and telephone has improved teachers/lecturers teaching style. Teachers who appreciate the use of computer system in their teaching methods, have influenced students effectively in their learning context, but those who are not ICT compliant have been observed to perform less in teaching effectiveness. Social media has emerged as a term frequently used to describe different types of communication platforms and electronic ways of interacting. Electronic mail plays a significant role in education, health, political processes, agriculture, economy, businesses and newsgroups. Therefore, the study reveals that there is significant relationship between social media communication skills and teaching staff effectiveness. There is significant relationship between e-mail communication skills and teaching staff effectiveness.

Recommendations

1. The government of Nigeria should embark on a massive computer literacy training programme nation-wide particularly for teachers and learners at all levels. This should be accomplished through in-service training for teachers, workshops, seminar, and conference.
2. Teachers/lecturers in Nigeria should be motivated and encouraged to develop and use multimedia courseware and software relevant to teaching and learning.
3. The cost of ICT tools like laptops, desktops etc should be reduce to affordable prices so that teachers and students can be able to acquire them.



REFERENCES

- Alex, Miltsov (2017). *Social Networking Sites*. Wiley Online Library, The Wiley Blackwell Encyclopedia of Social theory. Online: <https://doi.org/10.1002/9781118430873.est0756>
- Benson, M. (2008). *Shortcuts to creating and maintaining organized files and records*. Kansas: National Press Publications.
- Boyd, D. M. and Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210–230.
- Cappel, C. (2001/2002). Executives' and academics' perceptions on the need for instruction in written persuasion. *Journal of Business Communication*, 23(2), 55-68.
- David, S. (2014). Advantages and disadvantages of facebook. *Journal of Business Education*, 1(2), 155-162
- Englander, F., Terregrosa, R. & Wang, Z. (2010). Internet use among College Student: Tool or Toy? *Educational Review*, 62(1) pp. 85-96.
- Fang, X., Lee S., & Koh, S. (2005). Transition of knowledge/skills requirement for entry-level IS professionals: An exploratory study based on recruiters' perception. *Journal of Computer Information Systems*, 46(1), 58-70
- Gorgone, G. (2002). *Training in Management Skills*. Prentice Hall, Upper Saddle River NJ. pp. 1-18.
- Ibrahim, S. D. (2012). The Effect of Social Networking Sites Usage on the Studies of Nigerian Students. *The International Journal of Engineering and Science (IJES)*, 2(7), 39-46
- Janet, P. O. (2010). *Premium on affective education; panacea for scholastic malfunctioning and aberrational 34th Inaugural Lecture*, Olabisi Onabanjo University. Ago-Iwoye: Olabisi Onabanjo University Press.
- Junco, R. (2010). The Effect of Twitter on college students Engagement and Grades, *Journal of Computer Assisted Learning*, 9(1), pp 1-14
- Komblum (2009). A system approach towards remediation of academic failure in Nigerian Schools. *Nigeria Journal of Educational Psychology*, 3(1), 28-35
- Koong, K. S., Liu, L. C., & Lui, X. (2002). A study of the demand for information technology professionals in selected internet job portals. *Journal of Information Systems Education*, 13(1), 21-28.
- Laudon, K. C., & Laudon, J. P. (2004). *Management information systems: Managing the digital firm* (8th ed.), Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Lee, S., Yen, D., Havelka, D., & Koh, S. (2001). Evolution of IS professionals' competency: An exploratory study. *Journal of Computer Information Systems*, 41(4), 21-30.

- Masagca, J. T. (2002). *Ecology of teaching in an era of globalization*. Paper presented during the 5th National Research Forum of REDTI, Inc. Feb. 1, 2002 held at JICA Hall, Dept. of Agric., Diliman, Q.C.
- Nwosu, I. (2004). *Digital public relations: concept and practice*, In Nwokocha, J. (Ed.). *Digital public relations: New techniques in reputation management*. Lagos: Zoom Lens Publishers. Pp. 33-34.
- O'connail, B. Whittaker, S. & Wilbur, S. (2003). Conversation over video conferencing: an evaluation of spoken aspects of video-mediated communication. *Human-computer Interaction*, 8(1), 389-428
- Ocampo, C. (2002). The internet and careers work. NICEC Briefing. National Inst. For Careers Education and Counseling. Cambridge, England. Panel (2006) "Quality in the content and use of ICT in Guidance". *British Journal of Guidance and Counseling*, 27(4):501-516.
- Oketunji, I. (2000). *Computer applications in libraries*. A compendium of papers presented at the 39th National Annual Conference of the Nigerian Library Association. Owerri. Pp.2-4.
- Palmer, M. (2000). *Records management in South Africa: A snapshot*. Records management society of Great Britain. Available at: <http://www.rms-gb.org.uk/96%20Palmer.html>.
- Rosen, O. A. (2009). *A multi-causal evaluation of academic performance of Nigerian Learners: Issues and Implications for National Development*. Department of Guidance and Counseling, University of Ibadan, Ibadan
- Thioune, R.M.C. (2003). *Information and communication technologies for development in Africa: Opportunities and challenges for community development*. Volume 1. Ottawa: IDRC. Available: <http://www.idrc.ca>
- Turner, R. (2004). Towards a structural model connecting hard skills, soft skills and job conditions and the IS professional: The student perspective. *Issues in Informing Science and Information Technology*, 1(1), 977-991.
- UNDP Report (2000/2001). *Millennium National Human Development Report (NHDR)*. New York.