

**INFORMATION AND COMMUNICATION TECHNOLOGY
COMPETENCE AMONG ACADEMIC STAFF OF ALVAN IKOKU
FEDERAL COLLEGE OF EDUCATION, OWERRI: A CASE STUDY**

By

JOY N. ORUWARI, Ph.D

*Department of Curriculum Instruction
Alvan Ikoku Federal College of Education,
Owerri
Imo State*

LETITIA C. NWACHUKWU Ph.D

*Department of Guidance / Counseling
Alvan Ikoku Federal College of Education, Owerri.*

&

UCHE SAMUEL ANUSIEM

*Education Foundation/Administration Department
Alvan Ikoku Federal College of Education, Owerri.*

Abstract

This article studied ICT competence and challenges of ICT usage among academic staff of higher institution of learning. A survey research design was adopted in this study. Six research questions guided the study and a validated questionnaire was used for data collection from a sample size of 143 academic staff. The collected data were analyzed using descriptive statistics (percentages). The results show that majority of the academic staff funded their ICT training; have laptops and access to the internet. (56%) rated their ICT competence as moderate. Major challenges include inadequate fund to purchase ICT equipment, Poor electricity supply, and insufficient time due to workload. It is recommended among others that ICT training of academic staff should be funded by the college management and that functional ICT facilities be provided for staff of the college.

Introduction

Information and Communication Technology (ICT) has been found to be useful and relevant to all aspects of life such as banking, education, business, religion, politics, communications, etc. Within education, the role of a teacher in terms of development, adoption and implementation of educational innovations is very crucial. Ideally, teachers should be very receptive toward the adoption and implementation of ICT in education. With a large investment in the ICT infrastructure and increased emphasis on the use of ICT in teaching, teachers are expected to be competent and effective in utilizing these tools (Mohamed & Mohamed 2012).

ICT when appropriately used, constitute potent tools for enriching traditional means of teaching, learning and conducting research. Lopez (2003) stated that ICT has provided innovative opportunities for teaching and learning and have engendered advances in research about how people learn, thereby bringing about rethinking the structure of education. According to Yusuf (1997) cited in Yoloye and Adekawonishe (2005) it is widely acknowledged that ICT can be used to improve the quality of teaching and learning in tertiary institution. Thus, their use in education by both teachers and students is becoming a necessity. Radloff (2001) highlights the opportunities that ICT presents for enhancing the quality of teaching and learning to include:

1. Providing encouragement for staff and students to reflect on how they teach and learn.
2. Applying theory and research on learning and principles of good instruction to designing online learning environments.
3. Making teaching (and learning) more visible and public.
4. Encouraging collaboration and team work among staff (and students)
5. Offering greater access to learning for more people
6. Increasing the skills and status of teachers.

Despite the apparent lofty benefits of the use of ICT for Educational purposes a wholesale uptake of ICT in education has not been achieved in majority of places. Impeding factors contributing to this situation include; lack of funds to support the purchase of the technology, lack of training among established teaching practitioners, lack of motivation and the need among teachers to adopt ICT as teaching tools. Oliver (2002).

In addition, Lau and Sim (2008) noted some factors hindering teachers' readiness and confidence in using ICTs, to include inadequate knowledge to evaluate the role of ICT in teaching and learning, lack of skills in the use of ICT equipment and software had resulted in lack of confidence in utilizing ICT tools.

Juwah and Northcote (2002) as cited in Archibong, Obgoji and Anijaobi-idem (2010) in their study found that the reasons adduced by staff for lack of relevant ICT skills include lack of time to attend staff development activities as a result of other work commitments, previous bad experience in IT training and fear of technology. In another study by Archibong and Effiom (2009), lack of interest, limited access to ICT facilities and lack of training opportunities were among the obstacles to ICT usage among academic staff. According to Carlson and Gadio (2002) stated that teacher training in the use of ICT is the best starting point in the ICT policy of a country because they are the key to making learning happen. This according to them is because teachers, who succeed in making use of ICT in their work process, do not only contribute to improved learning outcomes in their students, but also benefit personally from enhanced work productivity, reduced isolation and increased professional satisfaction (Mohamed & Mohamed 2012).

Therefore, the success of any system of education depends, to a large extent, on the number of teachers, their quality, their devotion to duty and their effectiveness on the job. It is as a result of this central position of the teacher that it is often said that no education system can rise above the quality of its teachers (NTI, 2010).

Statement of the Problem

ICT literacy among academic staff has been viewed as a prerequisite in adoption and integration of ICT in the school system. This informed the researchers' decision to investigate ICT competence and its use among academic staff of higher institutions of learning.

Research Questions

To achieve the stated objectives, the following research questions are posed:

1. What are the major sources of funding for academic staff ICT development programmes?
2. What numbers of academic staff possess personal computers/laptops?
3. Where do academic staffs have access to internet?
4. How does academic staff rate their ICT competence level?
5. What is the academic staff ICT competence level?
6. What are the challenges to ICT usage by academic staff?

Methodology

In consonance with the objectives of this study, a survey research was design and the study was conducted at Alvan Ikoku Federal College of Education, Owerri, Imo State. The target respondents were all academic staff in the institution. In order to avoid being restricted to sampling academic staff in some schools and leaving others out, the researchers adopted random sampling technique so as to enable the researchers to administer the research instrument and have a good mix of academic staff in diverse discipline areas. The research instrument was administered to a total of 150 academic staff; only 143 were successfully completed and returned, giving a return rate of 93.8%. The 143 academic staff consisted of 36 females and 97 males. The research instrument tagged 'ICT Competence Questionnaire (ICOQ) comprised 4 sections. Section A sought demographic information on gender, rank and institution. The 4 items in section B relating to source of funding for staff ICT training, possession of laptop/computer, place of access to internet, and rating of ICT competence required a 'Yes' or 'No' answer. Section C contained 16 items measured in a 4 point Likert-like scale ranging from 'Not competent' to 'Very competent' measuring academic staff competence in using ICT for the purposes indicated. Finally section D was open ended requiring academic staff to indicate 2 challenges/obstacles to their ICT use.

The face validation for items in the research instrument was carried out by expert in the measurement and evaluation discipline. The collected data were analyzed using descriptive statistics (percentage). The reliability of the instrument was determined using cronbach alpha for the internal consistency of the items. An internal consistency index of 0.86 obtained was considered adequate for the instrument.

Results and Discussion

The results obtained from the study are analyzed as follows. **Table 1: Sources of Fund for ICT Training Among Academic Staff.**

Sources of Fund	Number	Percentage
Self	76	53.3
College	67	46.7
Total	143	100

An examination of table 1 show that 65 (53.3%) of academic staff funded any form of ICT development training they have undertaken, while 57(46.7%) academic staff have received assistance from the college in ICT

Information and Communication Technology Competence among.....

related development training. This finding implies that institutional commitment to staff development in ICT is minimal as only 46.7% of the respondents have had institutional assistance in funding their ICT development. This finding agree with the position of Carlson and Gadio (2002) that while teacher professional development is underfunded generally, the situation of training in technology is much worse, as policy makers operating within budget constraints tend to give priority to hardware and software acquisition. Their observation holds true for the institution used in this study as there is not much effort towards funding of training of academic staff in ICT

Table 2: Academic Staff That Own PC/Laptop.

Ownership Of PC/Laptop	Number	Percentage
Yes	123	85.2
No	20	14.8
Total	143	100

Results in Table 2 show that 104(85.2%) of the respondents have personal computers/laptop, while 18(14.8%) did not. The high percentage of academic staff computers/laptops can be attributed to the fact that the College of Education Academic Staff Union (COEASU) A. I. F. C. E, Owerri chapter encouraged staff interest in ICT by encouraging staff to buy computers (desktop/laptop) and pay by installments over a period of two years. Again, the management of A.I.F.C.E, Owerri received donations of laptops from National Communication Commission (NCC) which were distributed to academic staff, heads of departments and examination officers as supply were received. Besides, some academic staff have now begun to see the need to own a personal computer.

Table 3: Respondent's Access to Internet

Places of Access To Internet	Number	Percentage
College	97	68
Public	25	17.2
Private	21	14.8
Total	143	100

With regards to access to internet the results show that 83(68%) of the respondents access internet at the college internet cafe. This is followed by those that patronise public cafe 21(17.2%), while those that access internet by private means are the least 18(14.8%). The high patronage of public cyber cafe to access internet by academic staff could be explained by the relatively functionality of the college internet wireless network. It is however encouraging to note that some academic staff creating their own means of access to the internet by buying the modem and airtime from internet service providers.

Table 4: Academic Staff Rating of ICT Competency Level.

Rating of Computer ICT Level	Number	Percentage
High	19	14.8
Moderate	86	59
Low	38	26.2
Total	143	100

The results in Table 4 show that only 18(14.8%) of the academic staff in

this study rated their ICT competency level as high. Those with moderate competency level were 72(59%), while 32(26.3%) only rated their ICT competency level as low. This result is encouraging as the combination of staff that rated their competency level as high and moderate (73.8%) is very high than those that were low ICT competency level. With this result, the possibility of many academic staff utilising ICT in teaching and learning situation is not restricted rather it is enhanced.

Table 5: Responder's Rating of ICT Usage Skills.

Items	Not Competent Frequency (%)	Somehow Competent Frequency (%)	Competent Frequency (%)	Very Competent Frequency (%)	Competent & Very Competent
Word-Processing	19(15.6%)	44(36.1%)	47(38.5%)	12(9.8%)	59(48.3%)
PoworPoint	43(35%)	43(35.2%)	27(22.1%)	9(7.4%)	37(29.5%)
Data	53(43.4%)	41(33.6%)	23(18.9%)	5(4.1%)	28(23%)
E-Mail	34(27.9%)	32(26.2%)	36(29.5%)	20(16.4%)	'56(45%)
E-Library	56(45.9%)	36(29.5%)	20(16.4%)	10(8.2%)	30(24.6%)
E-Leaming	56(45.9%)	40(32.8%)	23(18.9%)	3(2.5%)	26(21.4%)
E-Payment	55(45.1%)	48(39.3%)	14(11.5%)	5(4.1%)	19(15.6%)
Course Preparation	40(32.8%)	53(43.4%)	20(16.4%)	9(7.4%)	29(23.8%)
Research	19(15.6%)	43(35.2%)	46(37.7%)	14(11.5%)	60(49.2%)
Development Of Proposals	34(27.9%)	48(39.3%)	29(23.8%)	11(9.0%)	40(32.8%)
Note Online/Given Assignment	69(56.6%)	33(27.0%)	13(10.7%)	7(5.7%)	20(16.4%)
Mobile Phone Browsing	29(23.8%)	29(23.8%)	53(43.4%)	11(9.0%)	64(52.4%)

Networking (Facebook)	29(23.8%)	41(33.6%)	41(33.6%)	11(9.0%)	52(42.6%)
Video Conferencing	72(59.0%)	32(26.2%)	16(13.1%)	2(1.6%)	18(14.7%)

The findings in Table 5 shows that the combination of staff indicated that they were either competent or very competent in the utilisation of ICT in all the indices measured except the use of mobile phone browsing with 64 (52.4%) was below fifty per cent (50%). The highest areas of competence indicated by academic staff after mobile phone browsing were in usage of ICT for purposes of research 60(49.2%); for word processing 59(48.3%) and for e-mail 56 (45.9%). A lot is needed to be done by the academic staff of the college in the areas staff are still not competent with in utilising ICT such as e-library, data analysis, e-learning and so on as Table 5 reveals. Carlson and Gadio (2002) posited that teacher training in the use of ICT is the best starting point in ICT policy of a country because they are the key to making learning happen.

Following are the challenges to ICT use as indicated by the academic staff.

- a) Poor electricity supply
- b) Lack of funds
- c) No opportunity for training
- d) Insufficient time due workload
- e) Lack of sponsorship by the school management
- f) Proximity to ICT facilities
- g) Inability to acquire personal ICT facilities
- h) No ICT facilities at workplace
- i) Lack of ICT knowledge
- j) No patience to learn
- k) No interest in learning
- l) Personal office not secure to install ICT facilities
- M) Lack of time for practice

A critical look at items however indicates that these challenges can be summarized as follows:

1. Challenges related to Facilities-: Electricity supply which is critical to the use of ICT facilities is very epileptic in Nigeria which makes the ownership of a power generator mandatory for ICT users. This fact indicates why electricity is a major obstacle in the use of ICT by academic staff. This result is similar to earlier finding by Archibong and

Effiom (2009) in which academic staff revealed that power failures and inaccessibility of ICT facilities as obstacles to their ICT use. Access and proximity to ICT facilities pose problem to academic staff. Even those that are ICT literate lack the necessary facilities at their workplaces.

2. Funding-related challenge: From the results, it seems that many academic staff are reluctant to use their salaries for the purpose of acquiring training in ICT, Carlson and Gadio (2002). The other dimension is that there is little sponsorship from the College, thereby making funding an issue in the acquisition of ICT knowledge among academic staff.
3. Workload: In analyzing the questionnaire, most senior academics cited insufficient time due to both academic and administrative workload which does not allow them time to train or even improve upon their ICT skills as a challenge Oliver (2002).

Conclusion

From the findings of this study, it can be concluded that ICT skills development undertaken by academic staff was self-funded. In essence, funding from the college towards staff ICT development was minimal. The study equally revealed that high percentage of academic staff have personal computer, indicating their interest in acquisition of ICT skills. Again, access to internet by academic staff was mainly at college cyber cafe compared to private and public cyber cafe. Majority of the academic staff in this study rated their ICT competence as moderate. In terms of ICT use, the highest areas of competence were in mobile phone browsing, research, word processing and e-mail, while their competences in the other areas studied were low. Finally, it was also concluded that the major challenges to ICT use among academic staff were poor electricity, poor funding, inadequate facilities and excess work load on lecturers.

Recommendations

Based on the findings and the conclusions drawn in this study, it is hereby recommended that:

1. The college management should fund the ICT training of academic staff in addition to ICT workshops/seminars, etc.
2. Provision should be made for continuous retraining of staff on ICT since development in technology is dynamic and the staff needs to keep abreast with current trends.

3. Again ICT facilities should be provided and its functionality ensured so as to improve academic staff access to it within the college promises. Finally, it is suggested that academic staff should create time to improve their competences irrespective of their workload.

References

- Archibong, I. A, & Effiom, D. O. (2009). *ICT In University Education: Usage And Challenges Among Academic Staff*. *African Research Review*, 3(2): Pp 404-414.
- Archibong, I. A, Obgoji J. E. & Anijaobi-Idem, F. (2010). *ICT Competence Among Academic Staff In Universities In Cross Rivers State, Nigeria*. Last Retrieved July 2011 From: <http://www.Ccsenet.Ora/Journal/Index.Php/Cis/Article/View/7050/6119>
- Carlson, S, & Gadio, C. T. (2002). *Teacher Professional Development* \n*The\JseofCT*. In Haddad, W. D. & Draxler, A. (Eds.), *Technology for Education*. (Pp. 118-132). Washington, DC: UNESCO; Academy for Educational Development.
- Juwah, C. & Morthcote, M. (2002). *Devising Strategies for Enhancing Quality Staff Development in Embedding ICT in Teaching and Learning*. In *Quality Conversations. Proceedings of 25th HERDSA Annual Conference, Perth, Western Australia, 7-10 July 2002: pp 384-392.* '
- Lau, B.T, & Sim, C. H. (2008). Exploring the Extent of ICT Adoption among Secondary School Teachers in Malaysia. *International Journal of Computing and ICT Research*, Vol. 2, No.2, Pp.19-36 Last Retrieved July 2011 From <http://Www.ljcir.Orq/Volume2-Number2/Article 3.Pdf>
- Lopez, V. (2003). *An Explanation of the Use of Information Technologies in the College Classrooms*. *College Quarterly* Vol. 6 Last Retrieved July 2011 From: <http://www.collegquarterly.ca/2003-volo6-num01- full/copies:hmtl>.
- Mohamed, A. & Mohamed, N. (2012). *ICT competence among*

academic staff of higher institutions of learning: a case study of federal college of education, *Kontagora, In Nigeria Journal of Research In Education.*

National Teachers' Institute (2010). *Induction Manual for Newly Recruited Secondary School Teachers in Niger State*, Kaduna: NTI Press.

Oguamanam, H. (2011), Learner Centerd methods of teaching using communicative skills. *The ELTANITE Journal of English Language research, Imo State Chapter vol. 2 No.1 Dec. 2011*

Oliver, R. (2002). The Role of ICT in Higher Education for The 21st Century: ICTAs A Change Agent For Education

Oruwari, J.N. (2014). Effects of scaffolding and direct instruction on Students' achievement and affective response to English language grammar in Owerri education zone I. an unpublished PhD dissertation of Imo state university Owerri

Radloff, A. (2001). Getting Online: *The Challenges for Academic Staff and Institutional leaders*. Retrieved 19 August2008 from <http://www.ascilite.drg.au/conferences/melbourne01/pdf/papers/radloffa.pdf>

Yoloye, E. O, & Adekawonishe, A.A. (2005). Integration of ICT's in universities curricula. *Journal of E-learning*. 1(1). 67-78.

Yusuf, M. O. (1997). An investigation Into Teachers' Competence in Implementing Computer Education in Nigeria Secondary Schools,. *llorin Journal of Education*.Vol. I pp 20-28