

THE USE OF ICTS AS THEY RELATE TO TEACHING IN COLLEGES OF EDUCATION IN KANO METROPOLIS

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Abstract

The use of ICTs in teaching has an impact on students' content and skills acquisition. It is not however, the technologies that matter, but how the technologies are being used to improve teaching and learning. It was found that availability, accessibility and functionality of these technologies is also important in use. Technologies surveyed in this paper are ; the whiteboard, overhead projectors, flip charts, videos, computers and local resources from the environment. Survey method and questionnaires were used to collect data and simple frequency percentages were used to analyze the data collected from the respondents. It was found that, whiteboards and computers are the most available ICTs surveyed and teachers in the Colleges of Education (COE), use more of whiteboard than computers, videos and projectors in their teaching. This situation is due to inevitability of the technologies and lack of skills to manipulate the technologies. Availability and training in the use of ICTs in teaching and interest in doing so from both the administrators and teachers in COE is paramount.

ICT according to Arigbogu and Umeh (2003), refers to all that is involved in gathering and processing information, using modern technologies. Such modern technologies like computers and other related equipment are used so that services generated can reach all that desire them at reasonable cost and in good time, to the overall benefit of mankind. Such

areas that need ICT services, they maintain in the higher institutions particularly are in the delivery of lectures.

Teaching on the other hand, comprises of not just imparting knowledge, but also includes an attempt by the teacher to assist someone acquire knowledge and appreciate what is acquired. The process of teaching involves explaining, stimulating, directing and guidance. Others are evaluating, reporting and recording the performances of those learners. (Mallum & Abiola, 2002)

In developed countries, technologies like close CD-Rom, videos and the internet are used to deliver lectures. Such devices are also used to teach some concepts in sciences, sounds in languages and behaviour in humanities. The use of ICT in teaching also sustains students' interest and relieves the lecturer of the much chalk and talk. It has been recognized that ICT is potentially an indispensable part of educational system. UNESCO in particular, has placed a special focus on ICT in teacher training as it has strategically benefit the Education for All Millennium Development Goals (UNESCO Bangkok).

Emphasizing on the importance of internet connectivity in higher institution particularly in teaching and research, Munzali (1998) lamented that any institution that is not connected, is one century behind and teaching and research would be obsolete.

Discussing on the use of ICT in teaching science and mathematics, Pollyn & Tretito (2006) is of the opinion that the era of use of chalkboards and talk is gradually phasing out with the use of ICT teaching they point out that

teachers no longer sweat or rub chalk on their bodies or use rickety chalkboards where they struggle to make their writing legible. Nor do they have to make lengthy notes on those chalkboards to give out their best. Rather, all teaching and learning activities are made easy where white boards are used or lecture notes are prepared on CDs, Videos etc which is obviously less tedious.

Literatures dealing with technical and pedagogy, John (2003), attest to the powerful impact ICT can have on teaching. It is also claimed that using technology well during teaching can even enable teachers to be more successful in enhancing students' interest in learning.

In this electronic age, teacher preparation should include training on the use of ICT in teaching, particularly in teacher training colleges. The use of ICT or instructional technologies in teaching has advantages to both the teachers and the students, in the sense that it motivates student capture their attention and help the teacher to explain as complex concepts it also gives students the experience, knowledge and interest to use them too in their classrooms.

However, use of ICT depends on the availability of experienced and competent technical experts to maintain those technologies (Aguolu & Aguolu, 2002). It also depends on the teacher's preparedness, competence skills and interest in using them. Lack of use of ICT in teaching could be also associated with lack of necessary skills by the teacher to operate them (Isah, 2002). Other factors include availability, accessibility and functionality of even the available technologies within the teacher's immediate environment.

Whiteboard is a technological transformation from the chalkboard. Though both have same method of use, the whiteboard is easier, neater and a magnetic duster unlike

the chalkboard it does not need any effort and energy to write on, and saves the teacher the equipment and the environment from the powdery particles of the chalk.

Flipcharts, may not be technological and sophisticated, but one of the visual aids available in today's technology and most popular. Simple inexpensive and highly effective, and easy to use and portable (Wallace 2000) flipcharts also help students when organizing presentations to the whole class (Wanka and Oreoviez, 2001).

Projectors, are simple and use to project transparent materials on the screen for a small or large audience, placed in front of the class, it captivate the attention of students and improve their understanding of what the teacher is saying. Does not need special skills and easy to use.

Videos are used depending on the topic, the audience and what the teacher needs at the end of the program wants to show student teachers different methods of teaching skills, from introduction to evaluation, discussions can then be followed before they practice them with their peers in the class. Video recordings on teaching skills are helpful in micro-teaching sessions.

Computers are used for various operations in teaching. Use of computers in teaching need technological skills, competence and interest as well as electric power supply. Its interesting and have positive effect on students.

Despite its effectiveness however, it is interesting to note that even in developed countries, not all teachers are competent and willing to use it in the classroom. As Thompson (2000) observed that, some university lecturers still use traditional methods of teaching.

Local resources are used where and when the original material is not available through improvisation using locally available resources. It cost little or no money does not need skills to use nor electric power supply, in developing countries where most of these

technologies may not be available coupled with incompetency among most lecturers learning how to construct and use of local resources to teach concepts is paramount.

A study by Dogara, Ahmadu and Lawal (2003) on the use of ICT by science and mathematics teachers in COE, revealed that large number of the lecturers are not IT compliant, and very negligible number make use of ICT in teaching. Problems identified are, lack of training and inadequate facilities.

This paper attempts to find out whether teachers in Colleges of Education make use of ICT in their teaching. The author selected some technologies in teaching to answer that question. These technologies are: the whiteboard, computers, videos, flipchart, projectors and local instructional resources.

Objectives

- i. To find out the frequency of use of some ICT by teachers of COE in teaching.
- ii. To identify reasons for not using the technologies in teaching
- iii. To determine the competence level of the teachers in using the technologies in teaching.
- iv. To identify those factors that enhance the use of ICT by teachers in COE in teaching

Research Questions

The following research questions were formulated to guide the study.

- v. Which of the selected technologies do teachers use most in teaching and learning?
- vi. What are the reasons for not using the technologies in teaching
- vii. What is the competence level of teachers in using the selected technologies in teaching?
- viii. What factors enhance the use of such technologies in teaching?

Methodology

The focus of this study is the extent of use of some selected ICTs in teaching by lecturers in Colleges of Education in Kano Metropolis. Survey method and questionnaire as research instrument were used to sort and answer of the research questions formulated. A simple random sampling was used to select respondents for the study. According to Gay(1976), 10% is a minimum representative to a large population, and the sample for this study is a total of sixty (60) lecturers as respondents to the questionnaire on ICT use in teaching.

The research instrument was distributed and responses collected personally by the researcher and a research assistant, therefore there was a 100% return of the responses. Data collected was analysed and tabulated using frequencies and percentages.

Results and Discussions

Table 1: Frequency of Use of Technologies

Item	Never		Occasionally		All the time	
	Freq.	%	Freq.	%	Freq.	%
Whiteboard	0	0	0	0	60	100
Projectors	46	76.67	14	23.3	0	0
Flipcharts	37	61.67	23	38.3	0	0
Videos	35	58.3	25	41.67	0	0
Computers	32	53.3	28	46.67	0	0
Local resources	17	28.3	23	38.3	20	33.3
N	=		60			

Table 2: Reasons for Not Using Technologies

Item	Not applicable		Lack of training		Not available		Not accessible		Not accessible		
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
Whiteboard	60	100	0	0	0	0	0	0	0	0	
Projectors	0	0	13	21.67	38	63.3	7	11.67	2	3.33	
Flipcharts	0	0	4	6.67	36	60	17	28.3	3	5	
Videos	0	0	7	11.67	43	71.67	8	13.3	2	3.33	
Computers	3	5	18	30	30	50	2	3.33	10	16.67	
Local resources	20	33.3	12	30	24	40	4	6.67	0	0	
N	=		60								

Table 3: Competence Level

Item	Not Competent		Competent		Very competent	
	Freq.	%	Freq.	%	Freq.	%
Use of whiteboard	0	0	0	0	60	100
Operate projector in teaching	20	33.3	15	25	25	41.67
Prepare flipchart for use in class	10	16.67	23	38.3	27	45
Show video during teaching	22	36.67	26	43.3	12	20
Use computers to assist in class	39	65	10	16.67	11	18.3
Use of computer for personal work	8	13.3	3	5	49	81.67
Produce teaching materials using local resources.	17	28.3	24	40	19	31.67
N	=		60			

Table 4: Factors Enhancing Use of ICT in Teaching

Item	Not Competent		Competent		Very competent	
	Freq.	%	Freq.	%	Freq.	%
Training	0	0	24	40	36	60
Availability	0	0	3	5	57	
Accessibility	0	0	6	10	54	
Functionality	0	0	17	28.3	43	71.67
Administrative support	0	0	4	6.67	56	
Personal interest in Technologies	0	0	0	0	60	100
Personal interest in improvement in teaching	0	0	18	30	42	70
Peer support	0	0	20	33.3	40	66.67
Personal interest in students learning	0	0	14	23.3	46	76.67
N	=		60			

Table 1 addresses the frequency of use of the listed technologies in teaching. It shows that, all lecturers (60 of 60) used the whiteboard most of time and use local resources occasionally or all the time. Computers and videos are also used occasionally particularly during practically oriented courses. However, majority of the lecturers do not make use of projectors, videos and computers. Whiteboard is being used even when other technologies are in use during lecture session, no matter how brief. This means that whiteboard and any technology can be used simultaneously.

Reasons for not using the technologies listed are another area the research sort to answer research question 2 of the study. From the reasons given in Table 2, the non-availability of most of the technologies is the main obstacle to its use by the lecturers. This is followed by lack of training where 54 of 60 lack training in the use of all technologies except use of whiteboard which does not seem to require any training. For this research question, most lecturers queried on the fact that, the research did not direct a question on the ownership of the technologies they might have indicated to have used in the class. And that their lack of use may not necessarily be lack of competence, but more of lack of availability of those technologies in their college.

Table 3 shows the competence level of lecturers in the use of technologies in their activities. As expected, all lecturers are very competent in using the whiteboard. While majority of the lecturers are not competent in using the computer to assist in teaching but more than half (49 of 60) are very competent in using computer for their personal work. It is interesting to see that almost half of the lecturers can operate projectors and prepare flipchart for teaching.

There are certain factors that can enhance the use of technologies generally and

in teaching in particular. According to Gulbahar & Guven (2008), teachers' attitude towards use of modern technology in teaching is a major predictor of the use of technologies. Table 4 sort to answer research question 4, factors that enhance the use of technologies in teaching. These factors are listed and ranked using very important and not important for the use of new technologies in teaching. From Table 4, personal interest is the most important factor that can enhance the use of technologies, because as some lecturers argued, a teacher can use his or her personal computer, prepare videos and make some improvisation from local resources to make teaching easier and more interesting in the class. Moreover, some of those lecturers that claimed to be using technologies in their teaching, do so using their personal facilities.

Administrative support to make those technologies available is very important, and the friendly and helping hand or support from colleagues can be easier and most available. Here, collaboration with colleagues who know how and are willing to render the support needed is necessary.

Implications of the Results

In this electronic era, every profession particularly teaching, teachers need to be compliant with the new technologies to give out their best. Colleges of Education being a teacher training institution, teachers in those colleges are expected to use more of ICT in instruction than the traditional method of teaching. The continual use of whiteboard by majority of the teachers will not urgar well in the teaching profession. It means the products of their colleges will not have the needed ICT experience to go with into the electronic world.

According to Gulbahar and Guven (2008), teachers attitude toward the use of ICT not only affect their experiences, but also that of the students they teach (p. 38). Though teachers recognized the potentials of using computers in

teaching, many researches show the majority of teachers who use computers, do so to solve their academic and personal problems, such as accessing the electronic journals, researches, word processing, e-mailing etc, than for teaching. Teachers need to equip themselves with skills of using computers and related technologies to improve teaching and enhance learning.

Administrative support is one of the major aspects for enhancing the productivity of teachers through in-service training and making available all the necessary parameters to enhanced teaching. The non-availability of the ICT for teaching and lack of ICT skills among teachers in training colleges has a serious implication for teachers' preparation in the area of ICT in teaching (Dogara, Ahmadu & Lawal, 2003).

Conclusion

The study revealed that due to reasons such as lack of training and non-availability of some of the listed technologies, majority of the teachers do not use them in their teaching. Therefore, the need for training of these teachers and making available those needed equipment and skills for teaching is a major challenge to the management of Colleges of Education studied.

Recommendations

- ix. In the absence of original instructional materials, teachers should be able to produce improvised ones to enhance teaching or learning.
- x. Teachers should be able to train and use extra time, money and energy to produce such materials from the local environment.
- xi. Managements of Colleges of Education particularly those studied, could invest on training of teachers in the use of ICT so that they can use it in the classroom to

encourage and stimulate same in their students.

- xii. Those teachers that use ICT in their teaching should encourage and support their colleagues to do same.
- xiii. Teachers in Colleges of Education should avoid too much use of whiteboard by developing interest in the use of ICT in teaching.

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