

Full Length Research Paper

Information and communication technology awareness among technical college teachers in Benue State, Nigeria

Okwori O. Robert

Department of Industrial and Technology Education, Federal University of Technology, Minna, Niger State, Nigeria.
E-mail: okworirobert@yahoo.com. Tel: +23408060966254.

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The study focused on information and communication technology awareness among technical college teachers in Benue State, Nigeria. Four research questions were asked to guide the study. A sample survey research design was adopted for the study. A structured questionnaire was used to gather data from the population of 106 respondents in the eight technical colleges in Benue State, that is, all the technical colleges in the state were used for the study. Frequency count and percentage were used to analyze the data. The major findings of the study include personal collection as their source of information for teaching technical trades/subjects and most of the technical colleges were not connected to the internet. Four recommendations were made based on the findings of the study.

Key words: Communication, computer, information, technical, technology.

INTRODUCTION

Information and communication technology derived its name from computer technology and communication technology. Computer technology does the work of computing data while communication technology sent the data inform of information. Therefore, information and communication technology can be described as the combination of items of equipment (hardware) and computer programmes (software) that allow people to have access, retrieve, store, organize, manipulate and present information by electronic means (Aleburu and Olusanya, 2007). While lkuomola (2007) explained information and communication technology as electronic based system of information transmission, reception, processing and retrieval device. The introduction of information and communication technology has influenced all aspects of education. Though, Taiwo (2007) discovered that the use of information and communication technology has not been fully integrated into our educational system.

Linn (2003) explained that information and communication technology is complicate and difficult to understand but it has advantageous impact on science and technology teaching. This impact is even more important

in implementing the vocational and technical programmes which take into consideration the demands of the industries, as well as the socio-economic needs of the learners. An investigation into the performance pattern in the National Business and Technical Examination Board (NABTEB) result from 2000 to 2004 showed that students' performance was very poor, only very few candidates qualified for admission into the University. The Board identified some of the students' weakness to inadequate exposure to the training machines, poor response to sketches and schematic diagrams and other drawings due to lack of drawings skills (Chief Examiner's Report, 2000 to 2004 in lkyumen and Gbodi, 2007). UNESCO in lkyumen and Gbodi (2007) explained that NABTEB reviewed curriculum giving an average of ten subjects to be offered by students including entrepreneurship and the information and communication technology to be taken within the fixed school time. The methods of teaching technical subjects are expected to improve students' knowledge and skills but these instructional methods used are based on the behavioural learning theories which according to Campbell and Campbell (1999) does not equip teachers with adequate

knowledge of the human intellect and interest they are expected to develop in learners.

The shortcomings of the present teaching methods such as lecture method questioning, team teaching and so on are partly accounted for the poor performances of students in technical subjects at the school certificate examination (Nwoji, 2003). This poor performance also affects their work when employed after graduation (Paris, 1998). Technical college programme is concerned with trades, such as mechanical trades, computer craft practice, electronic engineering trades, building trades, wood trade and so on. The recipients involved in these trades are expected to acquire practical skills, as well as basic scientific knowledge such as mathematics, physics, chemistry and technical drawing. It is expected that trainees completing technical college programmes shall be able to:

1. Secure employment either at the end of the whole course or after completing one or more modules of employable skills;
2. Set up their own business and become self-employed and be able to employ others; and
3. The graduates should be able to proceed to tertiary technical institutions such as polytechnics or colleges of education (technical) and universities (FGN, 2004).

The goals of technical colleges emphasize on self-reliance and technological development of the nation. Bako (2007) stressed that information and communication technology can facilitate work in various ways. The work that was traditionally done can be performed with machine. The work of planning wood, mortising, moulding, sanding and finishing can be done by only pressing buttons. Drawing can be done with computer using software design packages. Therefore, this has clearly shown that the goals of technical colleges can be easily achieved if technical teachers have sufficient knowledge and skills to use ICT facilities.

The benefits of information and communication technology to technical teachers

The benefits of ICT to technical teachers are highlighted by the researcher as follows:

1. It creates opportunities for them to have access to database of other technical teachers published online;
2. It is used for communicating with other professional colleagues such as teleconferencing, UseNet etc. Technical teachers can use ICT facilities to discuss technical issues without coming together physically.

Taiwo (2007) also highlighted the benefits of ICT to technical teachers and students as follows:

1. Increases the performance of students as interaction

takes place;

2. Provides instructional opportunities where real material is not available;
3. Increases mastery of skills by teachers and students;
4. Improves students problem solving skills;
5. Increases the preparation of students for careers in technical education;
6. It increases emphasis on individualized instruction
7. It increases interest in teaching.

Statement of the problem

The growth in the use of information and communication technology has brought outstanding development into education (Ajelabi, 2000; Wellington, 2000). Some technical college teachers do not know how to use computer to teach or seek for relevant technological information. This may be responsible for poor performance of students in National Technical Certificate Examination. NABTEB in Ikyumen and Gbodi (2007), complained over the poor performance of students in national technical certificate examination. According to Molosi in Ohakwe and Okwuanso (2005), schools have started to incorporate the internet into teaching to make use of the wealth of free websites especially designed for teachers. Teachers in Nigeria have the opportunity to access the same information as teachers in developed nations.

Purpose of the study

The purpose of the study is to ascertain information and communication technology awareness of among technical college teachers. Specifically, the study sought to:

1. Identify technical college teachers' sources of information for teaching technical trades/subjects;
2. Determine the instructional medium used during lesson presentation;
3. Identify channels used for communication with other professional colleagues in relation to tackling problems in technical trades/subjects;
4. Identify technical colleges that have internet facilities.

Research questions

The following research questions were formulated to guide the study:

1. What are the technical college teachers sources of information for teaching technical trades/subjects?
2. What type of instructional medium used during lesson presentation?
3. Which of the channels used for communication with

other professional colleagues in relation to tackling problems in technical trades/subjects?

4. Which of the technical colleges have internet facilities?

METHODOLOGY

The research design adopted for the study was sample survey research. A sample survey research design is the type of research design that a group of people is studied by collecting and analyzing data from such a group of people who are considered to be the representative of the entire people (Olaitan et al., 2000).

Area of study

The study was carried out using all the technical colleges in Benue State, Nigeria. These technical colleges include Government Technical College, Makurdi; St. Joseph's Technical College, Makurdi, St. Jude's Technical College, Tse-Mker; Elabor Technocal College, Adoka; Federal Science and Technical College, Otukpo; Mbakuha Technical College, Lessel; Inyoji Technical College, Onyagede and Usar Trade Centre, Adikpo. It is Government Technical College, Makurdi, Federal Science and Technical College, Otukpo that belong to Benue State and the Federal Government respectively. Others are for missionaries and privately owned by individuals. Though, these schools are grant – aided that is they are controlled by the State Government. Teachers' salaries are paid by the State Government and supply of equipment, consumable materials and other facilities are also provided by the State Government. Some of the technical colleges have power point equipment but not provided in all the classes. Despite the fact that Most of the colleges are sited where they have access to electricity.

Population and sample

The population for this study was made of technical college teachers in Benue State, Nigeria. All the technical college teachers were used for the study. They were 111 technical college teachers.

Method of data collection

The researcher used questionnaires for data collection. To ensure that the questionnaires were returned in time, the instrument was administered by the researcher and a research assistant. Out of the 111 questionnaires given out, 106 copies were returned that is 95% return rate. The respondents that filled the questionnaire were technical college teachers, since they are directly involved in the teaching of technical trades and subjects. The questionnaire was in four sections. It contained 15 questions altogether. The subjects were requested to provide information on the following sections 'A' sought information on technical college teachers' sources of information used for teaching technical trades/subjects. Section 'B' sought information in instructional medium used for lesson presentation. Section 'C' sought information on channels used for communication with other professional colleagues in relation to tackling problems in technical trades/subjects. Section 'D' sought information on technical colleges that have internet facilities.

Validation of the instrument

Three experts in technology education of the University of Lagos,

Akoka - Lagos, Nigeria were used for face and content validation. Their suggestions were used for drafting the final copy of the instrument.

Method of data analysis

The data collected were analyzed in line with the research questions using frequency count and percentage.

RESULTS

Data for answering the research questions were analyzed and presented in Tables 1 to 4. Table 1 revealed that technical college teachers used their personal collections than library books. Some of them used internet while none of them used television as source of information for teaching technical trades/subjects. Table 2 revealed that most of the technical college teachers used traditional chalk, book and talk method followed by power point aided instructional package. They used television/video clips more than overhead projector. Few of them used tape recorded and player as instructional medium. The data in Table 3 revealed that the technical college teachers used written/oral communication more than any other channel followed by handset. Few of them used e-mail and facsimile while none for video conference. With reference to Table 4, 23 (21.70%) respondents indicated that technical colleges had internet facilities while 83 (78.30%) respondents revealed that most of the technical colleges had no internet facilities. The findings of the study are as follows:

1. Technical teachers used personal collections for teaching followed by library books;
2. The instructional media used for lesson presentation were mostly traditional chalk, book and talk method;
3. Technical teachers used written/ oral communication with their professional colleagues followed by handsets;
4. Most of technical colleges in Benue state do not have internet facilities.

DISCUSSION

It is evident that many technical teachers are not using ICT facilities for teaching technical trades/subjects, the study revealed that 74.53% of the respondents used personal collection as their sources of information for teaching technical trades/subjects. Okwori (2003) in his study also discovered that 85.86% of woodworkers used their personal collections as source of information for producing furniture items. While Dabels (2006) found out that in the Federal College of Education, Pankshin in Plateau State, Nigeria, 58% of the vocational and technical education teachers browse and search for information on the internet. Though, this is a higher

Table 1. Percentage of the responses of respondents on technical teachers sources of information for teaching technical trades/subjects (N = 106).

S/N	Statement	Responses	No of respondents	%
1.	Library book	Yes	28	26.42
		No	78	73.58
2.	Internet	Yes	22	20.75
		No	84	79.25
3.	Personal collection	Yes	79	74.53
		No	27	25.47
4.	Television	Yes	0	0
		No	0	0

Table 2. Percentage of the responses of respondents on instructional medium used during lesson presentation (N = 106).

S/N	Statement	Responses	No of respondents	%
1.	Power point aided instructional package	Yes	38	35.84
		No	68	64.16
2.	Overhead projector	Yes	24	22.64
		No	82	77.36
3.	Television/video clips	Yes	29	27.35
		No	77	72.63
4.	Traditional chalk, book and talk method	Yes	87	82.08
		No	19	17.92
5.	Tape recorder and player	Yes	13	12.26
		No	93	87.74

institution and still many are not utilizing internet for searching for information. It was revealed that majority of the technical college teachers used traditional chalk, book and talk method. Agreeing to that, Ofoefuna and Eya (1999) noted that traditional method of teaching is mostly used in many schools while the curriculum is loaded with new items to be taught. UNESCO in Ikyumen and Gbodi (2007) disclosed that NABTEB reviewed curriculum giving an average of ten subjects to be offered by students including entrepreneurship and information and communication technology to be taken within the fixed school time. Thus, every technical college teacher need to have the knowledge and skills of using ICT facilities so that they will be able to each students the use of these items. Secondly, it helps teaching to be carried out at a reasonably short time.

Majority of the technical college teachers used written/oral communication with the professional colleagues to tackle problems in technical trades/subjects. Ikuomola (2007) pointed out that some technical teachers used computer to communicate with their professional colleagues though, they are few. While Ducksworth in Okwori (2003) revealed that in developing nation like Nigeria, information about new ideas in technology is mostly communicated through formal (written) and informal (oral) channel of communication. It was disclosed that many technical colleges are not connected to internet. Agreeing to this fact, Taiwo (2007) observed that the use of ICT has not been fully integrated into our educational system. Therefore, many schools do not have ICT facilities before talking of connecting them to internet.

Table 3. Percentage of the responses of respondents on channels used for communication with professional colleagues in relation to tackling problems in technical trades/subjects.

S/N	Statement	Responses	No of respondents	%
1.	E-mail	Yes	19	17.92
		No	87	82.08
2.	Video conferencing	Yes	0	0
		No	0	0
3.	Handset	Yes	27	25.47
		No	79	74.53
4.	Facsimile	Yes	13	12.26
		No	93	87.74
5.	Written/oral	Yes	91	85.85
		No	15	14.15

Table 4. Percentage of the responses of respondents on the technical colleges that has internet facilities (N = 106).

S/No	Statement	Responses	No of respondents	%
1.	Technical colleges has internet facilities	Yes	23	21.70
		No	83	78.30

Conclusion

Information and communication technology is very essential for the realization of technical college goals. With the advent of ICT sharing of ideas, accessing new resources and interacting with experts is very easy, which can aid in achieving the goals of technical colleges. The result of this study showed that most of the technical college teachers used personal collection, traditional chalk, book and talk method, written/oral communication and many technical colleges are not connected to internet. With the advent of ICT, ways of doing things have changed for better; so if teachers in Nigeria embrace the use of ICT, it will help greatly in achieving our educational objectives. Therefore, technical college teachers should embrace the use of ICT facilities for teaching technical trades/subjects towards achieving the goals of technical colleges.

RECOMMENDATIONS

The following recommendations were made:

1. Ministry of Education should provide ICT facilities and make sure every technical college is connected to the internet;

2. Technical college teachers should be trained in computer and internet applications including use of design software packages. The state Ministry of education can make arrangement for such training during long vacation;
3. Technical colleges should also emphasize on the use of information and communication technology facilities where necessary, especially in theoretical subjects since it makes learning more real, concrete and effective;
4. Every technical college should ensure steady supply of electricity by procuring a generating plant, since ICT facilities cannot function without electricity, and electricity supplied by the Power Holding Company is epileptic.

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