

BASIC TECHNOLOGY TEACHERS' UTILIZATION OF ICT DEVICES IN SELECTED UPPER BASIC SCHOOLS IN ILORIN METROPOLIS

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Abstract

The study was designed to investigate the utilization of ICT devices as Instructional Material for Basic Technology Teachers in Ilorin metropolis. The study used descriptive research design of the survey type and random sampling technique was used to select the schools. A-32 item questionnaire was the instrument used for data collection. Four research questions were raised and answered using frequency count, percentage, mean and standard deviation. The result showed that ICT devices are not available as instructional materials for teaching thereby leading to poor utilization of ICT during instructional process. It was recommended that teachers should endeavor to develop skills in the utilization of ICT devices for effective teaching. Schools and government should make funds available for the procurement of ICT devices and sponsor Basic Technology Teachers' for conferences, seminars and workshops on utilization of ICT devices for effective integration of ICT in the classroom.

Keyword: *Instructional Material, Information and Communication Technology (ICT), Basic Technology*

Introduction

The key role of education is to empower students with skills and attitudes that are essential to success in contemporary knowledge and society. Teaching and learning has gone beyond the face-to-face dissemination of information to a more process of promoting students' adequate participation (Ajayi, 2008). It was stated by Aina (2016) that method of teaching has gone beyond traditional method of talk and chalk method, which justify lead for the utilization of instructional materials in Basic Technology instruction. Olumorin (2009) defines instructional materials in the simplest term as those materials that helps the teachers to teach with ease and the learners to learn without stress. It was explained further that instructional materials appeal to the senses of seeing, touching, smelling, feeling, and hearing. Natoli (2011) stated that instructional materials are also referred to as audio visual material which disseminate information through both sound and visual components. Isola (2010) referred to instructional materials as objects or devices, which help the teacher to make a lesson much clearer to the learner. Onasanya and Adegbija (2007) opined that, instructional materials can be classified into audio, visual, audio visual electronic, projected and non-projected instructional materials. Examples includes charts, cards, models, slides, films, journals, television, video, radio and so on. According to Yusuf (2009), the use of instructional materials helps to introduce to the class objects that cannot be physically

brought to the class. The use of instructional materials significantly improves the academic performances and creative thinking of subject studied. Onasanya and Adegbija (2007) stated that instructional materials aid both teachers and students to teach and learn better respectively. Yusuf (2004) instructional materials when integrated into instruction could enhance students' academic performance. The instructional materials of the 21st century learning is embedded in new technologies.

Technology for educational purposes will enable students and teachers to build new educational environment by using information and communication technology (ICT) that process information but also allow the learner to investigate, manipulate, test and extend knowledge . (Yusuf 2007) ICT as technologies that are used for accessing, processing, gathering, manipulating and presenting or communicating information. Ajayi (2008) posited that with the aid of ICT devices, teachers can take students beyond traditional limits, ensure adequate participation in teaching and learning process and create vital environments for experiment and exploration. The use of ICT devices as instructional material makes learning interesting by not making learners bored in classroom (Onasanya, 2014). To enhance teaching and learning process, it has become pertinent on the part of teachers to employ the use of ICT devices as instructional materials. This is because of the great role they play in the teaching and learning situation.

Information and Communication Technology Devices are meant for students and teachers to use in order to facilitate and make learning easy, for the purpose of thorough mastery of the subject matter by the learners, and to support active and creative teachers who would be able to stimulate and manage the learning of students using ICT devices to achieve instructional goals. The problem being faced at present in the teaching and learning of basic technology in Upper Basic classes in secondary schools arises from the fact that many concepts abound which requires the infusion of ICT devices into the classroom, lack of these devices could affect student's performance in Basic Technology. In view of the above statement, this research attempts to investigate the utilization of ICT devices as instructional material for basic technology teachers in some selected Upper Basic schools in Ilorin metropolis.

Purpose of the Study

The main purpose of this research was to investigate the utilization of ICT devices as instructional material for basic technology teachers in some selected upper basic schools in Ilorin metropolis. The specific purposes includes the following:

1. Find out the availability of information and communication technology devices for teaching Basic Technology in Ilorin metropolis..
2. Investigated the utilization of ICT devices by teachers for teaching Basic Technology.

3. Examine the attitude of teachers towards the use of ICT devices for teaching Basic Technology.
4. Determine the self-efficacy of Basic Technology teachers to make the use ICT devices to teach in the Upper Basic Classes.

Research Questions

1. What ICT devices are available for teaching Basic Technology in Upper Basic Schools in Ilorin metropolis?
2. What ICT devices do teachers utilize for teaching Basic Technology?
3. What is the attitude of teachers towards the use of ICT devices in teaching Basic Technology?
4. What is teachers' self-efficacy to use of ICT devices to teach basic Technology?

Methodology

The population for this study consisted of all Basic Technology teachers in Kwara State. while target population consisted of all the Basic Technology teachers in Ilorin metropolis. The study was carried out in kwara state of Nigeria. Relevant data were collected from Basic Technology Teachers teaching in the secondary schools. The population of the study comprised of one hundred Basic Technology Teachers.

A structure questionnaire was used for data collection. It consisted of 32 items divided into sections .Section A consisted of demographic data about respondent Age, Years experienced, Qualification and Sex. Section B sought information on availability of ICT devices for teaching Basic Technology while section D solicited information on attitude of teachers towards the use of ICT devices to teach Basic Technology and section E elicited information on self-efficacy of teachers to use ICT devices to teach Basic Technology. The items on section C. D. E were rated based on four point Likert type scale of strongly Agree (SA-4). Agree (A-3). Disagree (D-2) and strongly Disagree (D-1) was used. The instrument was subjected to face and content validation by three experts in technology education. The experts were drawn from the Department of Educational Technology. University of Ilorin, Ilorin. The questionnaire was administered by the researcher with the help of two research assistants. The entire copies of the questionnaire distributed to the respondents, one hundred (100) in number were completed and returned.

The analysis of the data for the four research questions were accomplished using frequency count, percentage, mean and standard deviation.

Research question 1

What are the availability of ICT devices for teaching Basic Technology in upper basic schools in Ilorin metropolis?

Table 1: Analysis on the Availability of ICT Devices for Teaching Basic Technology in upper basic Schools in Ilorin metropolis

S/N	Items	Mean	SD
1	There is computer for teaching basic technology	1.37	0.485
2	There is projector in my school	1.79	0.409
3	There are other ICT devices in my school	1.35	0.479
4	There is provision of uninterrupted power supply (UPS) in my school	1.56	0.499
5	The school is connected to the internet	1.68	0.469
6	There is electric power supply for the use of ICT devices	1.35	0.479
7	There is a furnished workshop for basic technology practical	1.66	0.476
8	There is government financial support for provision of ICT devices to teach basic technology	1.59	0.494
9	School authority support staffs in the form of computer maintenance/servicing	1.43	0.497
10	There is generator in my school in case there is power failure	1.32	0.469
	GRAND MEAN	1.51	

Based on the result in Table 1, it was revealed that availability of ICT devices for teaching Basic Technology was quite low with the mean rating of 1.51 using 1.5 as the bench mark. There are indications from the responses in items 1-10 that shows the low availability of ICT in teaching basic technology

Research question 2

What are the utilization of ICT devices for teaching Basic Technology in upper basic schools in Ilorin metropolis?

Table 2: Analysis on the Utilization of ICT Devices for Teaching Basic Technology in upper basic Schools in Ilorin metropolis

S/N	Items	Mean	SD
1	The available ICT devices are used by basic technology teacher in the classroom for teaching	2.06	1.071
2	The available ICT devices are used by basic technology teacher to be used for their personal purpose	1.75	0.936
3	The available ICTs are locked up in a room because of technical know how	2.29	1.008
4	The available ICT devices are used for administrative purposes	2.51	1.049
5	The available ICT devices are kept in the principal's office	1.93	0.956
6	The available ICT devices are not accessible to the teachers for teaching of basic technology	2.11	1.06
7	The available ICT devices are kept in a room because of its inadequacy	2.14	0.995
	GRAND MEAN	2.11	

Based on the result in Table 2, it was revealed that utilization of ICT devices for teaching Basic Technology in upper basic schools in Ilorin metropolis was low with mean rating of 2.11 using 2.5 as the bench mark. There are indications from the responses in items 1-7 that ICT devices was not being utilized adequately for instruction.

Research question 3

What are the attitudes of Basic Technology teachers toward the use of ICT devices in upper basic schools in Ilorin metropolis?

Table 3: Analysis on the Attitudes of Basic Technology Teachers toward the Use of ICT Devices in upper basic Schools in Ilorin metropolis

S/N	Items	Mean	SD
1	I believe that the use of computers and other ICT devices will take over my profession from me	1.94	0.940
2	The abusive use of computers and ICT devices has negatively affected my attitudes towards ICT devices as tools for teaching and learning of basic technology	1.90	0.980
3	My peers enthusiasm about computer and ICT devices changed my reservations towards acceptance of ICT devices as an effective tool in the teaching and learning of basic technology	1.939	0.946
4	The provision of short and long-term staff development programs on ICT integration has boosted basic technology teachers opinion of ICT devices as a tool for improving the teaching of basic technology	2.69	0.961
5	The lack of confidence affect basic technology teachers attitude towards ICT-Basic technology teaching and learning	2.40	0.888
6	Basic technology teachers develop phobia in operating computer and other ICT devices	2.22	0.985
7	Students' negative attitudes toward ICT based teaching technique discourages basic technology teachers to use of ICT devices in teaching	2.33	0.995
8	learning basic technology software will make me feel nervous and uncomfortable	2.03	0.834
GRAND MEAN		2.18	

Based on the result in Table 3, it was confirmed by basic technology teachers that attitude towards the used of ICT devices in upper basic schools in Ilorin metropolis were negative, considering the mean rating of 2.8 using 2.5 as bench mark. There are indication from the responses in items 1-8 that attitude of basic technology teachers towards ICT for instruction is very low.

Research question 4:

What is teachers' self-efficacy to use of ICT devices to teach Basic Technology in upper basic schools in Ilorin metropolis?

Table 4: Analysis on Teachers' Self-efficacy to Use of ICT Devices to Teach Basic Technology in upper basic Schools in Ilorin metropolis?

S/N	Items	Mean	SD
1	Performing basic operation in the computer is not a challenge as a basic technology teacher	2.95	0.757
2	I can use interactive board to teach basic technology effectively	2.85	0.796
3	I have the ability to use power point to teach basic technology effectively	2.86	0.829
4	I have the ability to give basic technology notes and assignments on line	2.95	0.833
5	I can download relevant materials online to teach basic technology	3.16	0.838
6	I can record short instruction on video-tape and share with my students	2.94	1.013
7	I can attend to technical problems that could be encountered with the use of ICT devices	2.83	0.954
8	I can locate previous visited web pages without being lost in hyperspace(cyberspace)	2.85	0.903
	GRAND MEAN	2.92	

Based on the result on Table 4, it was established that self-efficacy of Basic Technology Teachers in the utilization of ICT devices to teach basic technology in Ilorin metropolis was high with mean rating of 2.92 using 2.5 as the bench mark. There are indication from items 1-8 that teachers self-efficacy to use ICT devices to teach Basic Technology was well utilize adequately for instruction.

Summary of Major Findings

Based on the analysis of responses of the teachers, it was revealed that:

1. Teachers agreed that availability of ICT devices for teaching Basic Technology in upper Basic school was quite low
2. Utilization of ICT devices for teaching Basic Technology was found to be quite low because of their little knowledge of ICT.
3. The attitude of Basic Technology Teachers was positive
4. Self-efficacy of Basic Technology teachers in the utilization of ICT devices to teach basic technology was found to be high.

Recommendations

Based on the findings of this study, the following recommendations were made

- 1 ICT devices should be made available for instruction in secondary schools in Ilorin metropolis.
- 2 The finding of the study also suggested that teachers should endeavor to develop skills in the utilization of ICT devices for effective teaching .
- 3 Government should make funds available for procurement of ICT devices and sponsor Basic Technology Teachers for conferences seminars and workshops on utilization of ICT devices for effective integration of ICT in the classroom

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