INFLUENCE OF AVAILABILITY AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY ON STUDENTS' LEARNING OF CIVIC EDUCATION IN SENIOR SECONDARY SCHOOLS IN BWARI AREA COUNCIL, FCT, ABUJA

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Abstract

This study investigated the influence of information and communication technology on students' learning of civic education in senior secondary schools in Bwari Area Council, FCT, Abuja. A descriptive survey research design was used for the study. Two hundred and eighty respondents were used. The sample was selected through random sampling technique. Two research questions were raised as well as two research hypotheses were formulated by the researcher. Relevant data were obtained by means of structured questionnaire titled-Influence of Information and Communication Technology on Students' Learning in Senior Secondary Schools Questionnaire (IICTSLSSSQ). The collected data were analyzed using percentages to answer the research questions while t-test was used to test the hypotheses at 0.05 level of significance. The results indicated that the level of availability and extent of utilization of information and communication technology were very

low in the sampled schools. It was recommended that school principals should provide ICTs in schools and teachers should utilize ICTs during teaching-learning process.

Keywords: ICT, Learning and Secondary Schools.

Introduction

Information and Communication Technology (ICT) is a child of globalization. It has become part of our daily lives. It is obvious that any field of endeavour that must succeed will have to depend on one form of ICT or the other. It is one of the basic building blocks of modern society and many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education (Bolstad, 2014). In secondary education, the term ICTs could include computers, digital cameras and digital video cameras, creativity and communication software and tools, the internet, telephones, fax machines, mobile telephones, tape recorders, interactive stories, computer games, programmable toys, videoconferencing technologies and closed-circuit television, data projectors, microphones, headphones electronic whiteboards and more (Gbadegesin, Alabi & Omodun, 2018). A look at these information and technology materials showed that some of them are available in homes therefore many children would have had access to interacting and using some of them before ever going to school. This implied that the students of today are those new generation scholars who are born into a world where technology permeates.

The society is currently in the world of these new generation students whom are referred to by some authors as "digital natives"**,** the "millenials" and the "D-generation". These new generation students are born into a world of ICT-driven society where remote controls, mobile phones, programmable toys, digital cameras and computers among others are tools that are available for them to use at home as soon as they have grown enough to manipulate play materials. This was the reason (Olowe & Kutelu, 2014)

observed that digital technology is so much part of their lives that they barely notice it is there. The new generation students can press play and stop button on DVD and CD players, use the remote to surf television channels, use mobile phones to play game, select their favourite music and take photograph of their siblings, type letters on computer and view them on screen and operate programmable toys for play and fun. These are to mention few among the many things the new generation students can do with the available ICT tools around them.

Since the new generation students are born into the world of ICT and they have been using and interacting with ICT tools even before ever going to school, it is expedient that they are given opportunity to enjoy many benefits that ICT can provide them in their learning process and development. Secondary education is concerned about providing quality experience for students in order to aid their cognitive, physical and social-emotional development. ICT can play vital role in achieving this role. In the area of cognitive development for instance, Ikediashi & Akande (2016) reported some authors by saying that when teachers support students and media rich content is integrated with the curriculum, technology experiences are associated with better language and literacy outcomes, such as letter recognition, sequencing, and sounds; listening and comprehension; vocabulary; and understanding concepts about stories and print. This role of ICT can also be in helping students develop skills of reasoning, predicting and problem-solving especially when they play games, surf television channels with remote controls and interact with touch screen media tools among others.

Adeoye, Oluwole and Blessing (2013) have observed that since students are active and mobile, they need frequent changes in learning modalities. Thus, in the area of physical development, students can develop their fine motor skills while manipulating buttons or keys on technology materials such as mouse, remote control, mobile phones, computer keys and programmable toys. They can also develop their gross motor skills while running or moving around the school premises. As for social-emotional development, students can work and play together to use technology

tools. In the process, they would have opportunity to relate to one another, share materials, cooperate in achieving given tasks and accept others. Apart from this, ICT would enable the teacher to provide experiences with technology materials so that they can make learning interesting and sustain students' attention in learning activities.

Some research results have emphasized the need for professional development of secondary school teachers in the use of ICT, while others have demonstrated the effectiveness of preparing secondary school teachers in the use of ICT. It is pertinent to mention therefore that this has implication for the lecturers who are expected to professionally prepare the Secondary Education teachers. In this vein, Olowe and Kutelu (2014) have noted that teaching in this age of digital learning also has implications for secondary school educators in how they integrate technology tools and interactive media in the on-campus and online courses they teach, and how well they prepare future secondary school teachers to use technology and media intentionally and appropriately in the classroom with students.

The big question that agitates mind however is whether the secondary school teachers who are expected to use ICT in teaching-learning process utilize it. It is perceived that it can provide opportunity for holistic development of students. It is based on this premise that this study would investigate the influence availability and utilization of information and communication technology (ICT) on students' learning in secondary schools in Bwari Area Council, FCT, Abuja.

It seemed that the level of availability and utilization of information and communication technologies in secondary was very low. Also, it seemed that information and communication technology did not have a significant influence on students' learning in senior secondary schools. Many related studies had been carried out but they did not explore the level of availability and utilization of information and communication technology. Thus, this investigated influence of availability and utilization of information and communication technology (ICT) on students' learning of civic education in secondary schools in Bwari Area Council, FCT, Abuja.

Purpose of the Study

The purpose of the study was to investigate the influence of availability and utilization of information and communication technology (ICT) on students' learning of civic education in secondary schools in Bwari Area Council, FCT, Abuja. The specific objectives were to:

i.　determine the level of availability of information and communication technology in secondary schools in Bwari Area Council, FCT, Abuja, and

ii.　find out the extent of utilization of information and communication technology in secondary schools in Bwari Area Council, FCT, Abuja.

Research Questions

The following research questions were raised to guide the study:

i.　What is the level of availability of information and communication technologies in senior secondary schools in Bwari Area Council, FCT, Abuja?

ii.　What is the extent of information and communication technology in senior secondary schools in Bwari Area Council, FCT, Abuja?

Hypotheses

The following research hypotheses were formulated and tested at 0.05 level of significance.

H_{01}: Availability of information and communication technology does not have a significant influence on students' learning in senior secondary schools in Bwari Area Council, FCT, Abuja.

H_{02}: Utilization of information and communication technology does not have a significant influence on students' learning in senior secondary schools in Bwari Area Council, FCT, Abuja.

Methods

The research design employed in this study was the descriptive survey research design. The sample comprised of two hundred and eight respondents made up of eight teachers and two hundred students. The instrument used for data collection was a structured questionnaire titled – Influence of Information and Communication Technology on Students' Learning in Senior Secondary Schools Questionnaire (IICTSLSSSQ). The questionnaire contained sections A and B. Section A dealt with the bio-data of the respondents while section B contained items on influence of ICT on students' learning in senior secondary schools. The questionnaire adopted modified Likert scale format of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) which the respondents responded to. The instrument was subjected to face and content validity by giving it to experts in business education and social studies education. Test re-test reliability was done to ensure the consistency of the instrument. The instrument was first administered to ten students outside the sample. The same instrument was administered to the same set of students after two weeks' interval. The two sets of data collected from the instrument were analyzed using Pearson Product Moment Correlation Co-efficient. 0.72 was gotten which was high enough for the instrument's reliability. With the aid of business education teachers as well as social studies teachers, the instrument was administered to the respondents. The collected data were analyzed using percentages to answer the research questions while t-test was used to test the research hypotheses at 0.05 level of significance. For the test of hypotheses, the null hypothesis was rejected if the calculated t-calculated value was equal to or greater than the t-tabulated value whereas the null hypothesis was retained if the t-calculated value was less than the t-tabulated value. Also, the null hypothesis was rejected if the calculated p-value was equal to or less than the set p-value whereas the null hypothesis was retained if the calculated p-value was greater than the set p-value.

Results

Research Question 1: What is the level of availability of

information and communication technology in senior secondary schools in Bwari Area Council, FCT, Abuja?

Table 1: Percentage analysis showing level of availability of information and communication technology in senior secondary schools in Bwari Area Council, FCT, Abuja

S/N	Item	Students' Responses				Teachers' Responses			
		Yes		No		Yes		No	
		F	%	F	%	F	%	F	%
1.	I have computer	68	34.0	132	66.0	6	75.0	2	25.0
2	I have e-mail address	64	32.0	136	68.0	8	100.0	-	-
3	I have internet access	40	20.0	160	80.0	4	50.0	4	50.0
4	I have digital camera	16	8.0	184	92.0	-	-	8	100.0
5	I have scanner	-	-	200	100.0	-	-	8	100.0
6	I have video equipment	-	-	200	100.0	-	-	8	100.0
7	I have projector	-	-	200	100.0	-	-	8	100.0
8	I have telephone	124	62.0	76	38.0	8	100.0	-	-
9	I have video conferencing	-	-	200	100.0	-	-	8	100.0
10	I have closed circuit television	-	-	200	100.0	-	-	8	100.0

From Table 1 above, item 1 revealed that 34% of the students have computer while 66% of them do not have. Also, 75% of the teachers have computer while 25% of them do not have. Item 2 revealed that 32% of the students have e-mail address while 68% of them do not have. Also, all (100%) the said that they have e-mail addresses. Item 3 showed that 20% of the students have internet access while 80% of them do not have. Also, 50% of the teachers have internet access while 50% of them do not have. Item 4 showed that 8% of the students have digital camera while 92% of them do not have. Also, all (100%) the teachers said that they do not have digital camera. Item 5 showed that all (100%) the students said that they do not have scanner. Also, all (100%) the

teachers said that they do not have scanner. Item 6 showed that all (100%) the students said that they do not have video equipment. Also, all (100%) the teachers said that they do not have video equipment. Item 7 showed that all (100%) the students said that they do not have projector. Also, all (100%) the teachers said that they do not have projector. Item 8 revealed that 62% of the students have telephone while 38% of them do not have. Also, all (100%) the teachers said that they have telephone. Item 9 showed that all (100%) the students said that they do not have video conference. Also, all (100%) the teachers said that they do not have video conference. Item 10 showed that all (100%) the students said that they do not have closed circuit television. Also, all (100%) the teachers said that they do not have closed circuit television.

Research Question 2: What is the extent of information and communication technology in senior secondary schools in Bwari Area Council, FCT, Abuja?

Table 2: Percentage analysis showing extent of information and communication technology in senior secondary schools in Bwari Area Council, FCT, Abuja

S/N	Item	Students' Responses				Teachers' Responses			
		Yes		No		Yes		No	
		F	%	F	%	F	%	F	%
1.	ICT is used to find information about a topic	164	82.0	36	18.0	8	100.0	-	-
2	It is used to search for teaching and learning resources	156	78.0	44	22.0	8	100.0	-	-
3	It is used to communicate with other pupils as well as teachers	178	89.0	22	11.0	8	100.0	-	-
4	It is used to seek new ideas and inspiration	182	91.0	18	9.0	8	100.0	-	-
5	It gives immediate feedback	172	86.0	28	14.0	8	100.0	-	-

From Table 2 above, item 1 showed that 82% of the students said that ICT is used to find information about a topic while 18% of them said no. Also, all (100%) the teachers said that ICT is used to find information about a topic. Item 2 revealed that 78% of the students said that ICT is used to search for teaching and learning resources while 22% of them said no. Also, all (100%) the teachers said that ICT is used to search for teaching and learning resources. Item 3 revealed that 89% of the students said that ICT is used to search for teaching and learning resources while 11% of them said no. Also, all (100%) the teachers said that ICT is used to search for teaching and learning resources. Item 4 revealed that 91% of the students said that ICT is used to seek new ideas and inspiration while 9% of them said no. Also, all (100%) the teachers said that ICT is used to seek new ideas and inspiration. Item 5 revealed that 91% of the students said that ICT gives immediate feedback while 9% of them said no. Also, all (100%) the teachers said that ICT gives immediate feedback.

Hypotheses Testing

H_{01}: Availability of information and communication technology does not have a significant influence on students' learning in senior secondary schools

Table 3: t-test analysis showing influence of availability of information and communication technology (ICT) on students' learning in senior secondary schools

Variable	N	Mean	Std. deviation	Df	t_{cal}	t_{tab}	Sig (P-$_{cal}$)	Remarks
Availability of ICT	208	44.92	6.222					
	208	43.70	6.259	414	2.179	1.649	0.030	Reject Ho$_1$
Students' learning								

Significant at df=414; Pdd0.05, t-$_{calculated}$ > t-$_{tabulated}$

Table 3 showed t-test analysis of influence of availability of information and communication technology on students' learning in senior secondary schools. The t_{cal} value of 2.179 was found to be greater than the t_{tab} value of 1.649 given 414 degrees of freedom at 0.05 level of significance. The t_{cal} value was significant since it was greater than t_{tab} value, the null hypothesis was rejected. It implied that availability of information and communication technology had a significant influence on students' learning in senior secondary schools.

H_{02}: Utilization of information and communication technology does not have a significant influence on students' learning in senior secondary schools

Table 3: t-test analysis showing influence of utilization of information and communication technology (ICT) on students' learning in senior secondary schools

Variable	N	Mean	Std. deviation	Df	t_{cal}	t_{tab}	Sig (P-$_{cal}$)	Remarks
Utilization of ICT	208	43.95	6.237					
Students' learning	208	42.72	6.263	414	4.178	1.649	0.030	Reject Ho_2

Significant at df=414; Pdd0.05, $t_{calculated}$ > $t_{tabulated}$

Table 3 showed t-test analysis of influence of utilization of information and communication technology on students' learning in senior secondary schools. The t_{cal} value of 4.178 was found to be greater than the t_{tab} value of 1.649 given 414 degrees of freedom at 0.05 level of significance. The t_{cal} value was significant since it was greater than t_{tab} value, the null hypothesis was rejected. It implied that utilization of information and communication technology had a significant influence on students' learning in senior secondary schools.

Discussions

This study has shown that the level of availability of ICTs in schools was very low. The finding was in line with Olowe and Kutelu (2014) who opined that few desktop computers were available in schools. They stressed further that chalkboard and chalk were the only materials reported as being adequately available by the schools. There were very few schools reporting availability of charts, posters and bulletin board. The hypothesis one, therefore, indicated that availability of information and communication technology had a significant influence on students' learning in senior secondary schools. However, these ICTs were not available in the sampled schools.

In addition, the study revealed that utilization of information and communication technology had a significant influence on students' learning in senior secondary schools. The findings agreed with Bolstad (2014) who reported that ICT stimulates the pupils' interest during teaching-learning process.

Owing to this, there are many challenges facing the use of ICTs in schools. These include lack of expertise, lack of technical support, unstable power supply among others. According to Gbadegesin, Alabi and Omodun (2018), provision of ICTs is done by two arms of government in junior secondary school. The federal government would provide 50% of the fund while the state government would provide the remaining 50% of the fund yielding 100%. But the fund for the provision of instruction materials in schools is currently defunct.

Recommendations

School principals should make ICTs available in schools. This can be supported by government. Also, teachers should use ICTs during teaching-learning process. Owing to this, Parent-Teacher Association (PTA) should provide ICTs in schools. This will boost the effort of the government as well as the school.

Conclusion

The findings indicated that ICT had a positive influence on students'

learning. The researchers therefore concluded that the level of availability and utilization of information and communication technology were very low. Therefore, teachers did not utilized ICTs while teaching Civic Education.

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