
Information and Communication Technology as a Tool for Effective Teaching: A Case Study of Special Education Centre, Bauchi, Nigeria

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ABSTRACT

The purpose of this study was to investigate the availability and acceptability of information and communication technology (ICT) as a Tool for effective teaching using Special Education Centre, Bauchi as a case. This Centre was selected because of high number of special education teachers in the school. Descriptive survey design was employed. The study targeted all special education teachers in the centre. Purposive sampling was used to sample the respondents who participated in the study. The instrument used for collection of data was teachers' questionnaire. To ascertain the validity and reliability of the instruments, independent judges were used to review them, test re-test was done and pilot study was conducted. Data collected were presented using descriptive methods such as frequency and percentages. The major finding shows that despite the teachers' readiness to use ICT facilities, the study found that the facilities were generally lacking in the centre. The study recommends that government should provide adequate ICT facilities in the centre so as to promote effective teaching. The study further recommends that teachers should be trained and encouraged to accept the use of ICT facilities for teaching students with disabilities. The study also recommends that school authority should ensure provision and maintenance of standby power generator in case of power failure.

Keywords: *Effective teaching, information and communication technology, Special Education Centre, Bauchi*

INTRODUCTION

Education is a system through which one generation transmits knowledge, ideas and cultural practices of its society to the next generation in an unending process (Ahmad, Abubakar & Dabo, 2013). This process of transmitting education in today's classrooms requires the use of Information and Communication Technology facilities for better teaching and learning. Education sector today becomes one of the significant areas that have not been neglected by the information and technology to transform the spectrum

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of the educational landscape especially at the secondary school level (Ahmad et al, 2013). Information and communication technology (ICT) has permeated all aspects of human endeavor including the act of teaching. Effective teaching can easily be carried out in today's modern world using information and communication technology (ICT) facilities. According to Duffy (2006), effective learning occurs when learners develop the ability to purposely access information from variety of sources, analyze and evaluate the information and then integrate into the construct, a personal knowledge base from which to make intelligent decision.

The technology revolution is challenging and redirecting all forms of education, including special education. The acceptance of information and communication technology (ICT) into teaching process has become a critical cog throughout all areas of education (Ahmad, 2012). There are developments in the Nigerian education sector which indicates some level of ICT application in the Nigerian schools. The Federal Government of Nigeria recognizes the prominent role of ICTs in the modern world and has integrated ICTs into education sector in Nigeria (Ahmad *et al.*, 2013) To actualize this goal, the document states that government will provide basic infrastructure and training at the primary schools. At the basic school level, computer education has been made a pre-vocational elective, and is a vocational infrastructure and training for the integration of ICTs in the education system (Hardo and Abubakar, 2016).

Despite the importance of ICT in teaching/learning globally, the use of ICT in our educational institutions in Nigeria is mostly at its infancy state. According to Hardo and Abubakar (2016), the use of ICT in public primary, secondary and even special schools in Nigeria is quite limited. He added that only teachers in private schools mostly accepted the use of ICT facilities. Ahmad, Abubakar and Dabo (2013) cited Word Bank (2002) saying that Nigeria ranks lowest among prominent African countries in the use of Information and Communication Technology among teachers in secondary schools. Adoption of ICT in teaching will depend on both the teacher and school factors (Sulaiman, 2012) For instance, if a teacher has the necessary skills and knowledge on how to integrate ICT in pedagogical practice, then he or she will be willing to try out this innovation and with time, he or she becomes confident in using ICT in teaching.

Manu (2014) postulated that the attitude of the teachers towards integrating ICT in classroom instruction could be influenced by the level of support by the school management. According to Nwana (2010), the problem of information technology illiteracy is a serious one among teachers in the country as it cut across primary, secondary and tertiary institution. He noted that many teachers in the country do not have the basic computer appreciating skills and serve as a great hindrance to educational development. This instigates the need for call toward the consideration for the role of



ICT in teaching. Efforts have been made especially in the tertiary education for the provision of ICT facilities, interventions received from non-governmental organizations, banks and companies, such as National Communication Commission (NCC), and Tertiary Education Trust Fund (TETFUND) are quite laudable (Hardo and Abubakar 2016). The roles of ICT in our society today is enormous as underscored by Clarke (2006) that ICT is an important indispensable part of contemporary society that allows access to information anywhere in the world; promote networking that is not restricted by boundary, language and culture, foster community empowerment and spread knowledge. Lack of teachers' acceptance of ICT in schools could be a serious barrier to students learning in the modern age of technology as indicated in the national policy on education (FME, ETF project, 2005). Teachers' acceptance and the use of ICT facilities have been identified worldwide as a process of enhancing teaching and learning in schools.

According to Ahmad, Abubakar & Dabo, (2013) teachers' acceptance of ICT in schools requires a collective approach among the stakeholders. To promote special education programme in Nigeria, special education teachers' acceptance of information and communication technology (ICT) is an important factor that should be taken into cognizance. Thus, developing special education programme requires innovative teaching and learning techniques which are enjoyable and capable of motivating students with disabilities to learn. Asyafah, (2014) states that innovative teaching and learning method must; motivate students, stimulate their desire to learn, deliver the message in a clear way, create conducive learning atmosphere, facilitate creativity, promote self-assessment during teaching/learning encounter and promote problem-solving in learning. According to Higgins (2002), teachers' acceptance and use of ICT facilities in schools can help facilitate effective teaching and learning.

Therefore, the purpose of this study is to investigate the availability and acceptability of information and communication technology (ICT) as a tool for effective teaching in Special Education Centre, Bauchi. Hence, the objectives of this study are:

- To investigate the availability of ICT facilities in Special Education Centre, Bauchi
- To find out the extent to which these facilities will enhance effective teaching in Special Education Centre, Bauchi
- To identify the challenges of using the available ICT facilities in the centre

METHOD

This research is designed to sample the opinion of special needs education teachers in



the Special Education Centre, Bauchi. The study adopted descriptive survey design. The target population of the study consisted of all special education teachers. Forty teachers were purposively sampled to participate in the study. Data were generated by means of a questionnaire designed by the authors. It comprised eleven questions where the opinions of special education teachers were sought. The questions were designed to elicit responses from special education teachers on ICTs facilities. Forty questionnaires were distributed and thirty one were retrieved.

Before collecting the actual data, the researchers pre-tested the questionnaire to enhance reliability and validity of the instrument. The pilot study enabled the researchers to establish the validity and reliability of the instrument where the unclear instructions, insufficient writing space, vague questions and wrong numbering were revealed and corrected, thus improving on the structured questionnaires. The structured questionnaire in this study was validated through application of content validity. Thus, the researchers sought advice, comments and suggestions from test and measurement experts that they consider and incorporated in order to validate the questionnaires. Test, re-test method using Spearman's Rank order Correlations was used to test the reliability of the instrument. A reliability co-efficient value of 0.82 was obtained and this was deemed appropriate for the study. The data for the study were computer analyzed, using Statistical Package for Social Science (SPSS) version 22 programme. Thus, descriptive statistics such as frequency and percentage were used to analyze the data.

RESULTS AND DISCUSSION

Table 1: Available ICT facilities in the Centre

Variables	AGREE	DISAGREE
There are available computer sets in the Centre	3(10.0%)	28(90.0%)
Audio/Audio Visual Materials are adequately provided in the Centre	1 (3.2%)	30(96.8%)
There are projector sets in the Centre	3 (9.6%)	28 (90.4%)
There is internet Café in the Centre	1 (3.2%)	30 (96.8%)

Key- Agree, U-Undecided, D-Disagree

Table 1 revealed that few teachers (10%) were in support that computers were adequately provided in the Centre while majority of the teachers (90%) disagreed that computers were adequately provided in the Centre. Lack of teachers' acceptance of ICT in schools could be a serious barrier to students' learning in the modern age of technology as indicated in the National Policy on Education (FME, ETF Project, 2005).



The data obtained from the table further revealed that majority of the respondents (96.8%) disagreed that audio/audio visual materials were provided in special schools, (3.2%) of the respondents were of the view that audio/visual materials were adequately provided. The overall results indicated that audio/audio visual materials were not adequately provided in Special Education Centre, Bauchi. Lack of visual/audio visual materials in special schools could affect the participation of students with disabilities which could result to their poor academic performance of the study in classroom. The study further shows that majority (90.4%) of the respondents were of the opinion that there are no availability of projector in Special Education Centre, only 9.6% agreed with the assertion. Lack of using projector in teaching students with vision problem will tend to negate their learning as they cannot see properly what is written on the board (Manu, 2014). This entails that the use of projector in teaching students with low vision will no doubt facilitate effective learning and teaching. Further analysis of the result of this study reveals that almost all the respondents (96.8%) indicated that there is no internet café in the school while 3.2% indicate that there is. This agrees with the findings of Manu (2015) who reported that most of National Open University Centre do not have internet cafe. Hence there is no effective teaching in the Centre due to lack of internet café.

Table 2: Benefits of ICT facilities in teaching learning in Special schools

Statements	AGREE	DISAGREE
Provision of ICT facilities will facilitate independent study and team work among special needs education students	28(90.0%)	3 (10.0%)
ICT facilities will support and assist students for conventional classroom work	30(96.8%)	1(3.2%)
ICT facilities will enhance teaching and learning among special needs education students	27 (87.1%)	4(12.9%)

Table 2 shows that almost all teachers 28(90%) were of the view that ICT facilities facilitate independent study and team work among students in the centre. Only 3(10%) disagreed with the view. This result confirmed that the availabilities of ICT facilities would create an enabling teaching and learning environment that could foster effective teaching which will subsequently enhance students' academic performance in the Centre. This agreed with the finding of Manu (2014) who reported that availability and effective utilization of ICT/assistive technologies facilities will enhance teaching at the National Open University, Bauchi Study Centre. The study further



indicated that (96.8%) of teachers indicated that provision of adequate ICT facilities will support and assist students with disabilities for conventional classroom while only (3.2%) rejected the assertion. The result concur with Hardo (2015) who was of the view that the use of ICT facilities for teaching could support and assist students to acquire the desired knowledge and this will promote their academic performance. The finding further reveals that majority of the respondents (87.1%) supported the sentiment that ICT facilities will enhance the learning among students with special needs if adequately provided.

Table 3: Challenges affecting the use of the ICT facilities in the Special Education Centre

Statements	AGREE	DISAGREE
Lack of steady power supply	30(96.8%)	1(3.2%)
Inadequate computers in the centre	27(87.1%)	4(12.9%)
Lack of trained personal/teachers to handle modern teaching facilities	22(71.0%)	9(29.0%)
Lack of maintenance culture of the existing teaching facilities	28(90.3%)	3(9.6%)

Table 3 indicates that majority 30 (96%) of the respondents agreed that poor power supply was a major constraint affecting the use of ICT facilities in the centre as against only (3.2%) respondents who rejected the assertion. This result entails that poor power supply could not only affect the use of ICT facilities in the school but also affects the students' learning. This agreed with the finding of Salihu (2018) who reported that poor supply of electricity in the country results to ineffective use of ICT for teaching Physic in secondary school. On whether inadequate supply of computers affect teaching in the Centre, the result of the study reveals that more than half (71%) of the respondents were of the view that lack of sufficient provision of computer sets was identified as one of the major constraints affecting teachers acceptance of ICT for teaching in the Centre. Only (12.9%) of the respondents did not support the sentiment. The overall result indicates that provision of adequate computer sets in the Centre will significantly promote effective teaching which will subsequently improve the academic performance of students with disabilities. The agreed with the finding of Asyafah (2014) who reported that provision of adequate ICT facilities in schools could promote students learning. Majority of the respondents (71%) supported the sentiment that lack of trained personal to handle ICT facilities in the Centre hampered teachers' acceptance of using ICT facilities for teaching. This supported the finding of Nwana (2010) who reported that lack of



trained personnel to handle ICT facilities is among the major constraint affecting the effective use of ICT facilities in most schools.

CONCLUSION

The purpose of this study was to investigate the availability and acceptability of information and communication technology (ICT) as a tool for effective teaching in Special Education Centre, Bauchi. It was designed to sample the opinion of special needs education teachers in the Special Education Centre, Bauchi. Hence, the study concludes that there was shortage of ICT facilities in the Centre which made teachers not accepting to use the facilities for teaching. If the facilities are adequately provided teaching will be enhanced which will subsequently promote the academic performance of students. The use of the few facilities available in the Centre is being constrained with challenges which affect the effective teaching in the Centre. The study therefore, recommends that:

- i. Government should provide adequate ICT facilities to promote teaching in the Centre.
- ii. Teachers should be encouraged to accept the use of ICT facilities for teaching in the Centre. This could be done by sending teachers to computer training.
- iii. School authority should ensure the provision and maintenance of standby power generator in case of poor power supply.
- iv. There is the need to employ trained personnel to handle ICT facilities and be guiding teachers on how to use the facilities for teaching.

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