

Teachers Perception and Students Attitude to the Use of ICT Resources in the Three Ebonyi State Educational Zones in Nigeria

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Information and Communication Technology (ICT) in education is information carriers designed specially to fulfil objectives in teaching-learning situation. Teacher's perception of ICT resources in school environment plays a critical role in determining students' disposition to ICT use. Previous studies carried out largely focused on the use of ICT resources in teaching and learning, few addressing teachers' involvement and how they perceived the use of ICTs resources. In view of this, the study investigated teachers' perception and student's attitude to the use of ICT resources in secondary schools in the three Ebonyi State Educational Zones. Survey research design was adopted. Simple random sampling technique was used to select 186 students and 27 teachers in 14 secondary schools in the three Ebonyi State Educational Zones. Teachers' Perception Questionnaire (TPQ) ($r = 0.65$), Student's Attitude to ICT Use Questionnaire (PAICTUQ) ($r = 0.58$), Effect of ICT Use Questionnaire (EICTUQ) ($r = 0.78$), and Constraints to Effective Use of ICT Questionnaire (CEUICTQ) ($r = 0.0.72$), were used for data collection. Data collected were analysed using descriptive statistics and simple linear regression at 0.05 level of significant. There is a significant relationship between teachers perception to ICT resources and students attitude to ICTs ($R_{2adj} = 0.372$, $F_{(1,25)} = 16.371$), and teachers perception to ICT resources ($\beta = 0.629$, $t = -4.046$), significantly predicted students attitude. Majority of the teachers (100%) agree that the period of teaching with ICT facilities is inadequate and it makes transferring of information to learners' easier. Non-exposure of teachers in the use of ICT resources is a constraint militating against ICT use. Teacher perception to ICTs has a significant influence on student's attitude to ICT use and period of teaching the subject is inadequate. It is recommended that teachers should improve on their awareness to ICT use and adequate attention should be given to the period of teaching the subject in schools.

Keywords: teachers perception, student's attitude, use of ICT resources

Introduction

Recent trends in the existing field of Information and Communication Technology (ICT) have brought about new and easy ways of doing things in the school system which include, inter personal communications, data

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storage, teaching and learning process, entertainment, games, and a host of others. The computer as one of the major components of ICT is a tool that has singularly and dramatically continued to change the behavioural pattern of an individual for effective management of teaching-learning activities that goes on in schools. However, the use of ICTs resources in the society today embraces a range of activates of human life, which concerns how information is being communicated. The popular ICT hardware (facilities) in the school system includes one or more multimedia desktop, computers/laptops, and a combination of the following: printer, scanner, CD-writer/re-writable, data projector, interactive whiteboard etc., while the range of software needed to be available for the hard drive to work properly includes: the computers and CD-ROM to facilitate its smooth operation. However, the use of ICT resources in the classroom system offers opportunities in terms of learning efficiency and quality of teaching. It has a unique and unusual place in the classroom as an educational innovation. Its introduction in the school system seems to provide a new and innovative means to bring educational opportunities to a greater number of students of all ages, most especially those who have factually not been involved in the use of ICT resources due to social barriers and other compulsions.

Information and Communication Technology in the secondary school system has been one of the welcoming innovation by the Federal Government (FG) which is meant to improve students' performance in schools, but very little has been done to investigate what kind of teachers are involved and how they perceived the use of ICT resources in the classrooms. The increased use of technology within the school system today has made teaching and learning a collaborative process that engages both teachers and learners in both activities as a whole in the learning community. Thus, it is important in the school system. The use of ICT resources in the school system can help bring ICT resources within the wider field of school improvement. It has many difficulties based on teachers views of adequacy in time that is allowed for developing new skills, exploring their integration into their existing teaching and learning process as well as undertaking necessary additional lesson planning if ICT resources are to be used effectively.

Rogers (2003) defines integration as the decision of teachers to accept and make use of an innovation as the best course of action that is available in order to improve upon their learning process. Rogers (2003) argues that the process of integration starts with initial hearing about an innovation to final adoption into the school system. Similarly, Williams (2003) also describes ICT integration as a means of using any ICT tool (the internet, e-learning technologies, CD-ROMs, etc.) to assist teaching and learning process.

Nevertheless, ICT provides an opportunity for teachers to transform their practices on condition that there is an improved educational content with more effective teaching and learning methods. That means it improves the teaching and learning process through the provision of more interactive educational materials that increases learner motivation and facilitates the easy acquisition of basic skills. With this development, the use of various multimedia devices such as television, videos, and computer applications offers more challenging and engaging learning environment for learners of all ages (Haddad & Jurich, 2008). Still, access to ICT infrastructure and resources in school remains a necessary condition for its full integration in secondary education (Plomp, Anderson, Law, & Quale, 2009). Conversely, the Federal Government (FG) policy according to Yusuf, Afolabi, and Loto (2013) asserts that there are a number of factors affecting the utilization of ICT resources in schools across the nations. Such factors include inadequate funding to support the purchase of the ICT facilities, lack of training in the use of ICT facilities, teaching personnel's lack of motivation and the need among teachers to adopt ICT as teaching tools (Starr, 2001). In the same vein, a study conducted by the International Institute for Communication and Development (IICD) indicated that 80 percent of its participants felt more aware and empowered by their

acceptance and exposure to ICT resources in education while 60 percent of the participants agreed that the process of teaching and learning was positively affected by the use of ICT resources in schools, which could be attributed to changes in teachers perception (International Institute for Communication and Development, 2007).

Changes in teachers' perceptions in the use of ICTs resources during teaching-learning processes plays a significant role in the school system. Black et al. (2003) noted that most of the secondary schools see the curriculum as a set of goals for students to achieve, through which they are able to see the gaps between the goals and the students current state of learning. So, by that means, a teacher accepts the use of ICT resources during the teaching and learning process which could influence how well the child can learn. Thus, its level of application in school could minimize or increase the rate of performance and concretize student's learning process as he or she interacts with such facilities during classroom teaching activities especially to those who find it difficult to achieve their learning goals.

Concept of Teaching

Teaching as a fundamental activity that is observed in the school system involves a process of directing and arousing the interest of the learner to the desired knowledge, skills, and attitude change of the learner. It is a process of transmitting what is worthwhile to the learner. That is because it involves experiencing or undergoing a process of acquisition of knowledge and skills. Hence, learning is central to every human existence (Yoloye, 2004). It is important to note that the pedagogical rationale for promoting use of ICT resources in schools is concerned with the effect of ICT resources used in teaching-learning activities. That is because it provides teachers with a range of new tools to facilitate traditional pedagogies and presents the teacher with the potential to develop new teaching methods. For example, most of the children growing up in a culture of all-pervasive technology or make use of ICT resources are capable of acquiring exciting and relevant learning opportunities within the school environment. Thus learners have the ability to build on their foundations of previous knowledge which makes learning become active, rather than being a passive process.

Furthermore, Olatunji (2012) suggests that the introduction of ICT resources tends to support learning in different ways. Olatunji, emphasized that effective use of ICT resources in schools by the teachers and students requires a strong intrinsic sense of personal belief to understand the concept and use it as means of achieving a stated objective. It has been observed that the way secondary school curriculum on computer studies is taught and assessed in most Nigerian schools is criticized, with regards to how the school administrators and most parents constrain children's knowledge of ICT resources use. He added that learning and student's attitude is seen as a body of facts that required attention rather than method of enquiry. This to a large extent might have prompted the innovation and dynamic creativity in order to meet the demand of the society as well as achievement of goals as specified in the national policy (FRN, 2004). Similarly, Pearson (2003) was concerned with the fact that knowledge of ICT resources use in our contemporary society has diminished in many schools' system. He pointed out that teachers should take advantage of the flexibility of the use of ICT facilities in schools to carry out longer-term experiments that would be more difficult to do in a timetable-constrained post-secondary school system. This can affect teacher's perception and student's attitude to the use of ICT facilities.

Students Attitude to the Use of ICT in Teaching/Learning

Attitude as one of the factors considered in this study, deals with the predisposition of an individual to act consistently in a way that can be evaluated as either being negative or positive (McMillen et al., 2000). McMillen

et al (2000) ascertained that, when exploring the attitudes of secondary school students towards the use of ICT resources, it is necessary to consider the attitudes of teachers towards teaching or adopting Computer Studies in the school system. Though, such attitude sometimes depends on the individual's degree of like and dislike towards an object. Linos and West (2003) also viewed attitude as a specific mental state of an individual towards something, where the state of his behaviour towards it is formed. It has a mental and neutral set of readiness and disposition for motivation, effectiveness, perceptual, and processes included due to the fact that individual's positive and negative activity is directed towards the use of ICT resources. Attitudes towards the use of ICT and computers has a specific feeling that indicates whether a person likes or dislikes using ICT facilities and computers (Simpson, Koballa, Oliver, & Crawley, 1994). Research findings reveal that teachers adoption of ICT influences students attitude to use such facilities in the class (Van Braak, Tondeur, & Valcke, 2004).

Rastogi and Malhotra (2012) assert that there is a growing awareness among policy makers and educators that the educational system needs to be reformed if it is to effectively equip the youths with the knowledge, attitude, and skills that they will need to succeed and thrive in the knowledge economy. It is equally important to understand the perception of those using it to carry out their activities because how one's view something can influence one's attitude to it. If teachers' perception is positive toward the use of educational technology, then they can easily provide useful insight about the adoption and integration of ICT resources into teaching and learning processes and their disposition to it can also influence the attitude of students to the use of ICT. Hence, attitude significantly predicts one's learning outcome depending on a number of variables, particularly the ethnic background and social class of the individual. Voogt (2003), suggests that majority of teachers who were interviewed on the need to use ICT resources as methodological approach to teaching and learning reported negatively towards the integration of ICT resources into teaching and learning processes. Most teachers feel reluctant to use computer due to poor perceptions, lack of confidence, fear of failure etc.; thus, there is a growing interest to know how computers and the internet can be easily utilized to improve effectiveness and efficiency of education at all level (Voogt, 2003).

In spite of the continued efforts of the federal government and supports from many agencies on globalizing the post-primary and other levels of education through the use of ICT resources, it is observed that most of the teachers still feel reluctant to accept the innovations of which it has influenced the level of its adoption among many secondary schools in Nigeria. Several studies have also revealed that the use of ICT resources is making a positive impact in the achievement of students and improvement on the teachers' teaching approaches (Watson, 2001). On the other hand, it seems to hinder the achievement of the educational goals as specified in the national policy on education and national policy on information communication technology (NPICT, 2010). It is based on this premise that the researchers sought to investigate the perception of teachers on ICT resources integration in secondary schools, how teachers' perception influences students' attitude to the use of ICT resources as well as the constraints to effective use of Information and Communication Technology resources in the secondary school

The main purpose of the study is to determine the teacher's perception and students attitude to the use of ICT resources in the three Ebonyi State Educational Zones in Nigeria. Specifically, the study focused on the following:

1. The extent teachers' perception of ICT resources use significantly determines students' attitude to ICT resources use.
2. The perception of teachers on ICT resources integration in the secondary schools in Ebonyi State.

3. The extent the use of ICT positively affects the teaching-learning process in the secondary school in Ebonyi State.

4. The constraints to the effective use of Information, Communication Technology resources in classroom in Ebonyi State.

To provide information to these objectives, the following research questions were posed to guide the study.

5. To what extent does teachers' perception of ICT resources use significantly determine students' attitude to ICT resources use?

6. What is the perception of teachers on ICT resources integration in the secondary schools in Ebonyi State?

7. To what extent does the use of ICT positively affect the teaching-learning process in the secondary school in Ebonyi State?

8. What are the constraints to the effective use of Information, Communication Technology resources in classroom in Ebonyi State?

Methodology

The study adopted survey research design because no variable was manipulated. This research design entails collection of relevant data about the problem under investigation, with the aim of describing the nature of existing conditions and relationships that exist between the identified variables in the study.

The population comprised all SS1 and SS3 students and their ICT teachers in the three educational zones of Ebonyi State Nigeria. Simple random sampling technique was used to select 14 secondary schools while purposive sampling technique was used to select two ICT teachers from each school (1 each from SS1 and SS3). Also, an intact class of SS1 and SS3 class in each school was used. In a school where only one teacher handles ICT teaching in both SS1 and SS3, the teacher is selected. A total of 213 students' attitude to ICT resources use questionnaire were distributed to the students' while 186 were retrieved. In all, 27 ICT teachers and 186 students (92 boys and 94 girls) participated in the study.

Four valid and reliable instruments were developed by the researchers and used for the study. They include: Teacher Perception of ICT Resource Use Questionnaire (TPICTRUQ), Effect of ICT Use to Teaching-Learning Questionnaire (EICTUQ), Students Attitude to ICT Use Questionnaire (PAICTUQ), and Constraints to Effective Use of ICT (CEUICT). They were all designed by the researchers. Teachers' Perception to ICT Questionnaire (TPICTQ) was developed by the researchers to elicit information on perception of teachers on ICT integration in primary schools. The questionnaire initially has 20 items which were reduced to 15 items after validation. The items are placed beside two scales of Agreed (A) and Disagreed (D), in which the respondents were requested to indicate their level of agreement. The instrument was validated with a reliability coefficient index of 0.65. The CEUICT was constructed to generate information on the observed constraints with 14 items of which 9 items survived after validation. The items were placed beside two response formats, Agreed (A) and Disagreed (D), with a reliability index of 0.72.

Also, UICTQ has 13 items after validation placed beside three scale type of a great extent (GE), small extent (SE), and never (N). The reliability of the instrument was established using Cronbach Alpha with a coefficient index of 0.78, while PAICTUQ initially has 18 items that were developed to elicit information on students' attitude to ICT use in primary schools; the items in the questionnaire were reduced to 12 items after validation. The items were placed beside two scales of Agreed (A) and Disagreed (D), in which the respondents were requested to indicate their level of agreement. The instrument was validated with a reliability index of 0.58. The

scoring of this instrument was based on the number of responses generated by each item. Descriptive statistics (frequency and percentage) were used to indicate the number of responses to each item, while multiple regression was used to determine students' attitude to the use of ICT resources at 0.05 level of significant.

Results and Discussion

Table 1

Summary of Simple Regression ANOVA Table Indicating the Prediction of the Criterion (Student Attitude) to Use of ICT Resources

Model summary					
R = 0.629 ^a					
R Square = 0.396					
Adjusted R Square = 0.372					
Std. Error of the Estimate = 10.49498					
Model	Sum of square	Df	Mean square	F	Sig.
Regression	1,803.127	1	1,803.127		
Residual	2,753.613	25	110.145	16.371	0.000 ^a
Total	4,556.741	26			

Notes. Predictors: (Constant), Teacher Perception.

Table 2

Coefficients Indicating Contribution of Teachers Perception of ICT Resources to Students Attitude to the Use of ICT Resources

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	52.506	8.880		5.913	0.000
Teacher perception	-0.640	0.158	-0.629	-4.046	0.000

Note. a. Dependent Variable: Pupils Attitude to ICT Resources.

Table 1 reveals that the simple linear regression correlation coefficient (R) shows the relationship between the teacher's perception of ICT resources and students' attitude to use of ICT resources. The study reveals that the value of the coefficient of simple regression is (R) = 0.629*, simple regression square (R^2) = 0.396 and the adjusted squared correlation (R_{adj}) = 0.372. The model has a positive and high correlation with a variance of -0.629. This implies that teacher's perception of ICT resources account for 62.9% variation in contribution to students' attitude to the use of ICT resources at the secondary school.

Simple regression ANOVA further shows that $F_{(1,25)} = 16.371$, $p < 0.05$ jointly allow for a reliable prediction of teacher's perception to ICT resources and pupils attitude to the use of ICT and F-test that examined the relationship between the predictor variables and the criterion variables are linear. Table 2 shows that teacher's perception to ICT resources [$\beta = -0.629$, $t = -4.046$, $p < 0.05$], sig. = 0.000* predict students' attitude to ICT resources use at secondary school.

Table 3 shows the perception of teachers on ICT resources integration in the secondary schools. The result reveals that majority of the teachers who participated in the study (100%), agreed that the length or period of teaching with ICT facilities is inadequate (Item 5), does not feel helpless with content of the ICT facilities (Item 10), and the content of computer studies curriculum enhances knowledge in ICT (Item 12), more than 80 percent of the teachers agreed that the use of ICT facilities can only be used in teaching some concept (Item 11), in

schools is very challenging (Item 13), the use of ICT facilities in schools has changed their attitude to teaching strategies (Item 14), and that it provides opportunities to work with interactive whiteboard in the classroom (Item 15). Furthermore, a good number of the teachers agreed that the use of ICT facilities in teaching has changed students attitude to learning (Item 9), it is better if ICT facilities are recommended for teaching and learning processes (Item 1), that the Computer Studies curriculum has complex concept that is difficult to explain (Item 8), and that the teaching process recommended for ICT is well planned (Item 2). Also, more than half of the respondents agreed that the use of ICT helps the children in other subjects (Item 6) and that using ICT during teaching and learning process makes the class interactive. However, a great number of the teachers 70.0% disagreed that the skills gained while teaching with ICT in classroom could be used easily at home (Item 4) and that the content of computer studies curriculum has helped to improve their instructional competency 62.9% (Item 7).

Table 3

Perception of Teachers' to ICT Resources Use in Secondary Schools

S/N	Perception of teachers to ICT resource use	Agree	Disagree
1	It is better if ICT facilities are recommended for teaching and learning process.	19 (70.4%)	8 (29.6%)
2	The teaching process recommended for computer studies is well planned.	18 (76.7%)	9 (33.3%)
3	Use of ICT during learning process is interactive.	15 (55.5%)	12 (44.4%)
4	The skills gained in ICT in classroom could be used easily at home.	7 (25.9%)	20 (74.0%)
5	The length or period of teaching with ICT facilities is inadequate.	27 (100%)	-
6	Use of ICT facilities helps the students in other subjects.	17 (62.9%)	10 (37.0%)
7	The content of computer studies curriculum has helped to improve my instructional competency.	10 (37.0%)	17 (62.9%)
8	The computer studies curriculum has complex concepts that are difficult to explain.	19 (90.3%)	8 (29.6%)
9	Use of ICT facilities in teaching has change students attitude of learning.	19 (70.4%)	8 (29.6%)
10	I do not feel helpless with content of the ICT facilities.	27 (100.0)	-
11	ICT facilities can only be used in teaching of some concepts.	22 (81.5%)	5 (18.5%)
12	The content of computer studies curriculum enhances knowledge in ICT.	27 (100.0)	-
13	The use of ICT facilities in school is very challenging.	24 (88.9%)	3 (11.1%)
14	Use of ICT in school has changed my attitude to teaching strategies.	23 (85.2%)	4 (14.8%)
15	Use of ICT facilities provides opportunities for learners to work with the interaction whiteboard in the classroom.	23 (85.2%)	4 (14.8%)

Critical analysis of Table 4 shows the effect of the use of ICT resources during teaching-learning processes in schools. The study reveals that all the respondents (100%) are of the view that the use of ICT resources to a great extent increases their achievement of their stated objective (Item 6), and that it makes transferring of information to learners easier (Item 8), while 70-80 percent of the respondent also agree that the use of ICT to a great extent makes lesson delivery easier (Item 4), encourages activities participation of learners (Item 9), but causes stress for the teachers who are not trained in how to use ICT facilities (Item 11). Also, more than 60 percent of the teachers are of the view that, the use of ICT resources is an important tool that students should benefit from during teaching and learning process (Item 7), it makes teaching and learning more different from the conventional method (Item 2), the use of ICT increases communication skills among students (item 5), it reduces the use of traditional chalk and talk (Item 10). It is worthy to note that more than 48% of the teachers are of the view that the use of ICT resources makes their lesson more interesting (Item 1), even when they appear to be expensive (Item 13). Whereas a good number of the respondent s hold that ICT resources make the lesson to be interrupted (Item 12).

Table 4

Effect of Use of ICT Resources in Teaching-Learning Process in the Classroom

S/N	Effect of ICT resources in teaching-learning process.	Great extent	Small extent	Never	Mean	SD
1	The use of ICT resources at times makes lesson more interesting.	90 (48.4%)	47 (25.3%)	49 (26.3%)	2.14	1.27
2	The use of ICT makes teaching and learning different from the conventional method.	123 (66.1%)	63 (33.9%)	-	1.34	0.475
3	ICT resources add more fun to teaching and learning.	90 (48.4%)	81 (43.6%)	15 (8.1%)	1.77	0.926
4	ICT use makes my lesson much easier.	150 (80.6%)	36 (19.4%)	-	1.39	0.792
5	The use of ICT increase communication skills among students.	108 (58.1%)	78 (41.9%)	-	1.60	0.774
6	The use of ICT resources increases my attainment of stated objective.	186 (100%)	-	-	1.00	0.000
7	Most children benefit from using ICT resources during classroom lessons.	126 (67.7%)	60 (32.2%)	-	1.40	0.636
8	ICT makes transferring information to learners easier.	186 (100%)	-	-	1.00	0.000
9	The use of ICT resources encourages students to participate in classroom activities.	137 (73.7%)	49 (26.3%)	-	1.26	0.442
10	ICT resources reduces the use of traditional teaching of chalk and talk.	106 (57.0%)	80 (43.0%)	-	1.51	0.643
11	It causes stress for teachers who have poor ICT skills.	134 (72.0%)	52 (28.0%)	-	1.56	0.900
12	The use of ICT resources makes the lesson to be interrupted.	54 (27.0%)	66 (35.5%)	66 (35.5%)	2.69	1.22
13	The use of ICT resources makes teaching and learning more expensive.	72 (38.7%)	96 (51.6)	18 (9.7%)	1.89	0.920

Table 5

Constraints to Effective Use of ICT Resources in the Secondary School Education

S/N	Constraints to use of ICT in secondary schools	Agree	Disagree
1	Inadequate computer training and certified teachers	19 (70.4%)	8 (29.6%)
2	Poor funding to provide ICT equipment	25 (92.6%)	2 (7.4%)
3	Lack of relevant software for teaching and learning	17 (62.9%)	10 (37.1%)
4	Irregular power supply	19 (70.4%)	8 (29.6%)
5	Learning with ICT resources is time consuming	25 (92.6%)	2 (7.4%)
6	Non-exposure of teachers' to ICT training	27 (100. %)	-
7	Low awareness of application of ICT resources to teaching and learning processes	27 (100. %)	-
8	Lack of technical support and maintenance of ICT facilities	21 (77.8%)	6 (22.2%)
9	Inadequate computer facilities in my schools	16 (59.3%)	11 (40.7%)

The analysis in Table 5 reveals the responses of the respondent on the constraints to effective use of ICT resources. The result shows that non-exposure of teachers to ICT training (Item 6), and low awareness of application of ICT resources to teaching and learning processes are the major constraints to effective use of ICT in secondary schools (Item 7). A good number 92.6% agreed that poor funding to provide ICT equipment (Item 2) and time consuming on ICTs resources in school are the constraint to the use of ICT resources (Item 5). Furthermore, majority of the respondent viewed lack of technical support and maintenance of ICT facilities (Item 8); inadequate computer training and certified teachers (Item 1) and irregular power supply (Item 4) as constraint;

while 62.9% perceived lack of relevant software for learning (Item 3), and inadequate computer facilities in schools (Item 9) as their major constraints.

Discussion

Result from these findings reveals that teachers' perception of ICT has a significant relationship with students' attitude to the use of ICT in classroom and teachers' perception to ICT resources is dependent on students' attitude to ICT resources use at the secondary school. The findings are in line with van Braak et al. (2004), whose study reveals that teachers' adoption of ICT influences students' attitude to use computers in the class while Olatunji (2012) found that, the effective use of ICT resources in schools by the teachers and students requires strong intrinsic sense of personal belief to grasp the concept of ICT and use it as a means of achieving the stated objectives. In other words, the prediction of attitude to learning outcome could depend on a number of variables, particularly the ethnic background and social class of the individual irrespective of how the teachers perceive the use of ICT resources. Adding that in his study, majority of the teachers responded negatively on the need to the use of ICT resources as a methodological approach in teaching-learning; teachers feel reluctant in using computer due to lack of confidence, fear of failure etc., which might determine learners' attitude to using ICT resources.

The teacher perception on ICT resources uses as revealed in this study appears to be positive. This is because majority of them indicated that they are at home with the use of ICT facilities and that curriculum content even aided to improve their knowledge of ICT. Thus, because the teachers are happy using it and also feel that they are benefiting a lot from it, changed their disposition to it positively. This result collaborates that of International Institute for Communication and Development (IICD, 2007), which revealed that, positive affection by the use of ICT resources could be attributed to how it is being perceived by the teacher. Changes in teachers' perceptions of integrations of ICTs resources in classroom teaching and learning process play a very significant role in the school system as noted by Black et al.'s (2003). Therefore, teachers should start to see the use of ICT resources in teaching as facilitating students' learning, rather than simply as completing an activity of the curriculum guide.

Also, as for the result with respect to the effect of the use of ICT, the respondents agreed that ICT makes teaching and learning more different, it makes lesson much easier, it increases students achievement, makes transferring information to learners easier, and the use of ICT resources encourages students to participate in classroom activities. This result is supported by Voogt's (2003) who maintained that computers and the internet can be easily utilized to improve effectiveness and efficiency of education at all level. With respect to constraints to effective implementation of ICT resources in the school system, the study revealed that low level of awareness of ICT resources by the teachers as well as non-exposure of teachers who will be ready to use it and ensure its full operation in the school system; lack of relevant software for teaching-learning and inadequacy of computer facilities in the schools were identified. This study corroborates the findings of Plomp et al. (2009) who found out that, access to ICT infrastructure and resources in schools is a necessary condition to the integration of ICT resources in education. Conversely, as for the Policy of the Federal Government (FG) as revealed by Yusuf et al. (2013), there have been a number of factors affecting the utilization of ICT resources in education across the state in particular and the nations in general. Such factors include inadequate funding to support the purchase of the ICT facilities, lack of training in the use of ICT facilities, teaching personnel's lack of motivation, and the need among teachers to adopt ICT as teaching tools (Starr, 2001).

Conclusion

It is discovered that ICTs resources have significant contributions to changes in teaching and learning process as well as the introduction of new innovations in the school system. Integration of ICTs resources in educational system as seen from the study seems to face various challenges with respect to policy, planning, infrastructure, learning content, and language etc. Thus, many developing nations are using ICT resources for raising standards of teaching and learning compared to what happens in Ebonyi State school system. In order to solve these challenges, our learning societies must embrace the new technologies and appropriate ICT tools for learning.

At secondary level, computer rooms are generally a feature of the larger schools, of which access by students to computers was found to be superior where the computers were located in the classrooms. Lack of technical support and maintenance is a significant impediment to the development of ICT resources in schools. Schools that made functional computer facilities available to teachers reported that it led to the use of more high-quality and creative teaching resources in classrooms. School teachers identified the provision and maintenance of hardware in schools and the provision of professional development opportunities in ICT resources as being strategically important for the development of ICT resources in their school. Dedicated ICT resources lessons at the secondary school level are more prevalent among first-year classes, and are provided less frequently as students' progress towards the Junior Certificate. The level of perception among teachers of the ICT resources advisory service is generally low, with fewer than half the respondents (students) at the secondary system.

Recommendations

1. Teachers should exploit the potential of ICT resources in order to develop a wide range of skills such as higher-order skills of problem-solving, synthesis, analysis, and evaluation.
2. Secondary Education Board should encourage and facilitate suitable ICT training for teachers.
3. Schools should liaise with relevant support services and endeavour to establish mechanisms to facilitate the sharing of good practice among members of the staff.
4. Support service personnel should aim to be proactive in providing examples of how ICT resources can be used to facilitate teaching and learning process in secondary schools.
5. Government should endeavour to encourage teachers' use of ICT by making it available for them in schools.
6. Finally, in order to achieve this objective, teachers should as well understand the benefits of using ICTs in their lessons delivery and to support pedagogical practices that will provide learning environments that are more learner-centred and knowledge-based.

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