IMPEDIMENT TO TEACHING OF COMPUTER EDUCATION BY SECONDARY SCHOOL TEACHERS IN AWKA EDUCATION ZONE OF ANAMBRA STATE

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Abstract
The study examined the impediments to teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State. Three objectives, three research questions and two null hypotheses guided the study. Descriptive survey research design was adopted for the study. Population of the study comprised all the 57 computer teachers in Awka Education Zone of Anambra State and there was no sampling because of the manageable size of the population. A 4-point rating scale questionnaire was used for the study. Reliability of .81 using Pearson Moment Correlation Coefficient was obtained. Data collected were analyzed using mean rating for research questions and t-test statistic was used to test the null hypotheses. The findings of the study revealed among others that lack of knowledge and ICT skills impede the teaching of computer in secondary schools in Awka Education Zone of Anambra State. Based on the findings, the study recommended among others that the government through the Ministry of Education should employ computer teachers who have knowledge of computer ICT skills to make the teaching of computer in secondary schools interesting.

Keywords: **Impediment, computer Education, secondary school teachers**

Introduction
The world is advancing at a rapid rate and events have moved to the electronic stage with computer at the center. This development has brought a lot of innovations and revolution into teaching and learning. The three 3R's (reading, writing and arithmetic), which forms the nucleus of the old system of education has witnessed series of literacy reforms. The world is now in the age of technology, hence there is need to keep abreast with time, for a well developed scientific and technological base society are conditional to any national human and material development. Nigeria has been classified as a developing

nation and has continued to make a breakthrough by emphasizing much on science and technology thereby making inclusive of computer education in the curriculum of the junior and senior secondary schools. During the ministerial council meeting of the national council on Education in 1987, the Federal Government of Nigeria decided to introduce computer education into the nation's secondary school system. One of the ways of achieving this is through the introduction of computer into our institutions of learning. The programmes usually reside within the computer and are retrieved as processed by the computer.

Computer can be defined as an electronic machine that has the ability to accept data, process data and retrieve data that is give out the result as information. A computer is an electronic device that manipulates information, or data. It has the ability to store, retrieve, and process data. You may already know that you can use a computer to type documents, send email, play games, and browse the Web. You can also use it to edit or create spreadsheets, presentations, and even videos. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range of tasks. Computer is beneficial to secondary school students because it can improve the student learning and basic skill area. Computers not only improve the learning process, it also increases retention of the students for effective and adequate teacher learning is an integral element of the successful learning program. Computer technology has had a deep impact on the education sector. Thanks to computers, imparting education has become easier and much more interesting than before. Owing to memory capacities of computers, large chunks of data can be stored in them. They enable quick processing of data with very less or no chances of errors in processing. Networked computers aid quick communication and enable web access. Storing documents on computers in the form of soft copies instead of hard ones helps save paper. Also A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via computer programming. Aneke (2015). Computer system is a programmable machine which responds to a specific set of instruction in a well defined manner. It can execute a pre – recorded list of instruction (a program). For the programmes in the computer system to be effectively utilized, individuals need to acquire computer education.

Computer education as it is stipulated by the National Policy on Education (2004) in Nigeria is one of pre-vocational subjects in the junior secondary schools. The aim and objectives of the Federal Government in these pre-vocational subjects mostly is that at the end of nine years of passing through, it should posses an appropriate level of literacy, numeracy, communication, manipulative and problems solving skills in order to be employable and useful to oneself and the society at large. Computer education means gaining basic knowledge and skills to operate computers in order to perform desired task. Computer Education not only involves basic knowledge about computer, computer education extends to various branches of study in various fields and sectors. According to Abimbola (2010), the use of computer in our educational sector was a growing phenomenon, because searching for work in internet requires the knowledge of computer.

The use of Computer Assisted Instruction (CAI) in education also requires in-depth knowledge of computer. According to Olaitan (2010) the prominent role of Information and Communication Technology (ICT) in educational system requires the knowledge of computers; since our schools are sweeping along on the incoming tide of new teaching techniques. The old methods used in teaching and learning of computer science are becoming increasingly inadequate. It is now become apparent for the government to provide adequate materials meant to redesign the computer education at all levels. Abdullahi (2014) says that computer science is one of the science subjects that deals with study of a machine that can receive instructions, recalls these instructions, carry out the instructions and gives a feedback on its actions. Computer science is a subject that deals with appreciation and application of computers. It is also defined as electronic machine that operate with remarkable speed and reliability. Evoh (2014) emphasized that secondary school education is essential of the creation of effective human capital in any country. The need for the inclusion of computer science in the education curriculum of the Nigerian secondary schools cannot be overemphasized. In this technology-driven age, every one requires ICT competence to survive and this calls for early acquisition of computer skills by students. Proper teaching and learning with regard to computer education in Nigerian Secondary Schools have been known to have suffered some setbacks but there are so many advantages the students stands to gain if properly educated in computer studies. The advantages of computers in education include: -Storage of information-Quick Computers facilitate audio-visual representation of information, thus making the process of learning interactive and interesting. Computer-aided teaching adds a fun element to education. Teachers hardly use chalk and board today. They bring presentations on a flash drive, plug it in to a computer in the classroom, and the teaching begins. There is colour, there is sound, there is movement - the same old information comes forth in a different way and learning becomes fun. The otherwise not-so-interesting lessons become interesting due to audio-visual effects. Due to the visual aid, difficult subjects can be explained in better ways using different computer accessories.

There are many computer accessories that also aid in the teaching and learning of computer, According to Aneke (2017), computer accessories are those devices which are useful and helpful to the operation of computer. E.g. keyboard, scanner, printers, mouse, monitors etc. Extent through which these accessories are seen in the computer laboratory is part of the major aim of these studies. Unavailability of computer accessories is one of the impediments to the acquisition of computer by secondary school students, including teaching qualification and teaching method for effective teaching and learning of computer as computer now plays a very vital role not just in education but also in other fields of endeavour such as commerce and industries etc.

The place of computer in education, like in any fields of human endeavour, has assumed an unimaginable dimension. Today, computers are used in various ways for teaching and learning in schools at various levels. Computers can now guide a learner through a course of instructions at a video display unit in such a manner that will facilitate the understanding of subject matter. This process helps to speed up the students learning process. This practice, unlike the case of human teacher gives the opportunity to re-learn

any aspect of the subject matter as many times as he/she cleans it necessary. This process of learning is called computer assisted learning (CAL).

Computer can also provide instructions to students, ask them questions (usually multiple choice question) mark the students responses, grade their performance and determine by itself whether to take the students to next level of study or repeat the previous portion of the study just concluded based on the students performance. This process of learning is called computer aided instruction (CAI). Apart from instructional programs, computers also make a lot of impacts by the provision of educational materials. Computer transform school libraries into new information service unit. Through virtual library one does not need to go from one library to another in search of library materials. With just a press of button (keys on computer keyboard) or a click on the mouse the information will be at the disposal of the intended user. Therefore this study aims at identifying those impediments to the effective teaching and learning of computer and also proffer possible solutions to them because since the introduction of computer education in Nigeria, it has been faced with lots of impediments.

Statement of Problem

Computer knowledge acquisition deals with the knowledge and ability to use computer and related technology efficiently with a range of skills covering levels from elementary use to programming and advanced problem solving. It has been observed that performance of students in computer studies in both internal and external examination in secondary schools has been very poor. This could be as a result of lack of knowledge and non possession of ICT skills by teachers. It could also be as a result of non availability of computer accessories or instructional materials.

The researcher wishes to find out the impediments to teaching of computer education by secondary school teachers in Awka Education Zone Anambra State by finding out knowledge and skill of ICT of computer teachers in the school will be enough for the student at the course of practical and the availability of the computer accessories, and lack of instructional materials will impede the teaching of computer. The researcher has put some questions to enable her source information at the course of the investigation.

Research Questions
The following research questions were formulated to guide the study:

1. To what extent do lack of knowledge and ICT Skills impede the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State?
2. To what extent does non-availability of computer accessories impede the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State?
3. To what extent does lack of instructional materials impede the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State?

Hypotheses

 The following null hypotheses which were tested at .05 level of significance guided the study:

H0₁: There is no significant difference in the mean responses of male and female computer teachers on the extent, lack of knowledge and ICT skills impeded the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State.

Ho₂: There is no significant difference in the mean responses of urban and rural computer teachers on the extent, non availability of facilities impedes the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State based on their location.

METHOD

This study employed a descriptive survey research design. Nworgu (2015), a survey is an attempt to collect data from members of a population in order to determine the status of the population with respect to one or more variables

The population of the study comprised of all the 57 computer teachers in 25 public secondary school in Awka Education Zone of Anambra State. **The study used the entire population of 57 computer teachers in public Secondary School in Awka Education Zone because of its manageable size. Hence there was no sampling.**   The instrument of data collection for this study was a 20-item questionnaire designed by the researchers.. The instrument named "Computer Teachers'" Questionnaire was a structured questionnaire. It was a 4 point Likert scale questionnaire with the response categories as follows: Very High Extent (4), High Extent (3), Low extent (2), very Low Extent(1).

    The questionnaire was divided into two sections: A and B . Section A collected data on personal data of the teachers. Section B has two clusters which collected information on Impediment to acquisition of computer education in public secondary school in Awka Education Zone, Anambra State in relation to lack of knowledge and skill of ICT, and non availability of computer accessories. **The instrument used was face validated by two experts in Computer Education in Department of Science Education and one experts in Measurement and ecluation in the department of Educational Foundation, Chukwuemeka Odumegwu Ojukwu University, Igbariam Comments of the experts were incorporated to enrich the instrument** Test-retest reliability method was used to establish the internal consistency of the research instruments and data generated were subjected to Pearsons Product Moment Correlation Coefficient analysis which yielded a coefficient value of .82 which was high enough for the instrument to be reliable. 57 copies of the questionnaire were administered and collect the instrument by the researchers. A total of 55 questionnaires were retrieved in which three were improperly answered, reducing the total number of usable questionnaire to 52. Mean scores was used to analyze the research questions while the null hypotheses were

tested using t-test statistic at .05 level of significance. With reference to the research questions, the decision was that items with a mean ratings of 3.50 – 4.00 were regarded as Very High Extent. Mean ratings from 2.50 – 3.49 were regarded as High Extent. Mean ratings from 1.50 – 2.49 were regarded as Low Extent while mean ratings from 1.00 – 1.49 were regarded as Very Low Extent. Where the calculated p-value was less than .05, it means there was a significant difference and the hypothesis was rejected. Conversely, where the calculated-value was equal to or greater than the table value at .05 level of significance, the null hypothesis is accepted.

Results

Research Question 1
To what extent does lack of knowledge and ICT skills impede the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State?

Table 1: Mean rating of respondents on lack of knowledge and ICT skills

S/N	LACK OFKNOWLEGE AND ICT SKILLS	1 VLE	2 LE	3 HE	4 VHE	$\bar{X}$	DEC
1.	Having a degree in computer Education will be an advantage for teaching computer in secondary schools	12	27	9	4	2.09	LE
2.	Teachers in secondary school uses computer to communicate and teach students	1	7	26	18	3.17	HE
3.	Teachers know how to use computer to type lesson plan	4	10	23	15	2.94	HE
4.	Teachers know how to use power-point	10	21	15	6	2.33	LE
5.	Teachers go for training and in-service training to acquire more knowledge of computer.	-	2	18	32	3.58	VHE
	Grand Mean					**2.82**	**HE**

Table 1: indicated the extent to which lack of knowledge and skill in ICT impedes the teaching of computer education by secondary school students in Awka Education Zone. The result in table 1 shows that items 1 and 4 with mean ratings of 2.09 and 2.33 respectively impedes the teaching of computer education by secondary school teachers to low extent. On the other hand item 2 and 3 with mean rating of 3.17 and 2.94 respectively impedes the teaching of computer to High Extent. Also in item 5 with mean rating of 3.5 impedes teaching of computer to Very High Extent. The grand mean rating of 2.82 shows that knowledge and skill in ICT impedes teaching of computer by secondary school teachers in Awka Education Zone of Anambra State to a High Extent.

Research Question 2:

To what extent does non-availability of computer accessories impede the teaching of computer education by secondary school teachers in Awka Education Zone of Anambra State?

Table 2: Mean rating of respondents on non availability of computer accessories.

S/N	NON AVAILABILITY OF COMPUTER ACCESSORIES	1 VLE	2 LE	3 HE	4 VHE	$\bar{X}$	DEC
1.	Lack of computer accessories prevent the teacher from using computer to deliver lesson	2	3	10	37	3.57	VHE
2.	Lack of power point projector stop teachers from projecting their lesson	1	6	25	20	3.23	HE
3.	Lack of printer prevent the teacher from making materials available for effective teaching of computer	-	2	9	41	3.75	VHE
4.	Lack of computerized photocopying machine prevent the teacher from making instructional materials available for the students	2	5	13	32	3.44	HE
5.	Lack of scanner prevents the teacher from teaching students how to input images into the computer.	1	2	10	39	3.67	VHE
	Grand mean					**3.53**	**VHE**

Table 2 indicated the extent to which non-availability of computer accessories impedes the teaching of computer education in Awka Education Zone. The study shows that items 2 and 4 with mean ratings of 3.23 and 3.44 respectively impede the teaching of computer by secondary school teachers to a high extent while items 1, 3, and 5 with mean ratings of 3.57, 3.75, and 3.67 respectively impedes the teaching of computer by secondary school teachers to a very high extent. The study showed that all the items of non - availability of computer accessories with grand mean rating of 3.53 impede the teaching of computer education by secondary school teachers in Awka Education Zone to a very high extent.

Research question 3
To what extent does lack of instructional materials impede the teaching of computer education by secondary school teachers in Awka Education Zone?

Table 4: mean rating of respondents on lack of instructional materials

S/N	LACK OF INSTRUCTIONAL MATERIALS	1	2	3	4	$\bar{X}$	
		VLE	LE	HE	VHE	X	DEC
1.	Lack of instructional material makes understanding of computer concept difficult	4	8	27	13	2.94	HE
2.	Presentation of new idea without instructional materials makes teachers interaction with the students boring	2	6	24	20	3.19	HE
3.	Lack of instructional material like Microphone prevents students from hearing teachers voice well	1	18	26	7	2.75	HE
4.	Lack of instructional materials like ICT facilities prevents the students from having ICT skill	1	2	16	33	3.5	VHE
5.	Students taught without instructional material find it difficult to operate computer very well	5	7	12	28	3.21	HE
	Grand Mean					**3.13**	**HE**

Table 4 Indicated the extent to which lack of instructional materials impede the teaching of computer education by secondary school teachers in Awka Education Zone? Items 1, 2, 3 and 4 with mean ratings of 2.94, 3.19, 2.75 and 3.21 respectively showed that lack of instructional materials impede the teaching of computer to a high extent. While items 4 with mean ratings 3.5 impedes the teaching of computers to a very high extent. Moreover, the grand mean of 3.13 showed that lack of instructional materials impede the teaching of computer education by secondary school teachers to a high extent.

Table 5: t-test analysis of the significant difference in the mean responses of male and female computer teachers on the extent lack of knowledge and skill of ICT impedes the teaching of computer studies by secondary school teachers in Awka Education Zone.

Computer Teachers	-x	SD	df	t- value	p- value	Decision rule
Female	2.9	6.24	50	0.64	+ 1.96	NS
Male	2.6	5.78				

At degree of freedom (df) 50 and .05 level of significance, t- value; 0.64 is within the range p-value; + 1. 96. Hence null hypotheses 1 is accepted, which states that there is no significant difference in the mean responses of male and female computer teachers on the extent lack of knowledge and skill of ICT impedes the teaching of computer education by secondary school teachers in Awka Education Zone.

Table 6: t-test analysis of significant difference in the mean responses of urban and rural computer teachers on the extent, non availability accessories impedes the teaching of computer education by secondary school teachers in Awka Education Zone based on their location.

Computer Teachers	-X	SD	dF	t- value	p- value
Urban	3.98	9.96	50	1.91	+ 1.96
Rural	2.98	8.22			

At degree of freedom (DF) 50 and .05 level of significance, t- value; 1.91 is within the range of p-value; + 1. 96. Hence the null hypotheses 2 is accepted, which states that there is no significant difference in the mean responses of urban and rural computer teachers on the extent, non availability of facilities impedes the teaching of computer education by secondary school teachers in Awka Education Zone based on their location

Discussion of findings

Findings from the study revealed that lack of knowledge and skill of ICT impede teaching of computer by secondary school students to a High Extent. The findings is in agreement with the National Board for Professional Teaching Standards in the United States and the Centre for Teacher Accreditation (CENTA) in India which state that for a person to qualify for computer teacher he must obtain some qualification in the institution of high learning so that the teacher can have knowledge and skill of ICT. The findings of the study revealed that at the significant level of .05 significance t-value 0.67 is within the range of p-value; + 1. 96. Hence there is no significance difference in the mean responses of male and female computer teachers on the extent lack of knowledge and skill of ICT impede the teaching of computer education by secondary school teachers in Awka Education Zone. The study revealed that non - availability of computer accessories impedes the teaching of computer education by secondary school teachers to a very high extent. The findings is supported by Okon (2012) who also reported on the declining standard of teaching which is done without exposing the students to any form of practical experiences. The findings revealed that at the significant level .05 level of significance, t- value; 1.91 is within the range of p-value; + 1. 96 hence there is no significant difference in the mean responses of urban and rural computer teachers on the extent, non availability of facilities impedes the teaching of computer education by secondary school teachers in Awka Education Zone based on their location.

The study also revealed that lack of instructional materials impedes the teaching of computer education by secondary school teachers to a high extent. The findings are in agreement with Aneke (2015) who found out that when students perform class experiments, they gain manipulative and observation skills. The findings is supported by Evoh (2014), a growing body of research in the cognitive science suggest that students learn and better retain what they learn when engaged in "authentic" learning tasks with instructional materials.

Conclusion

Based on the findings of the study, it was concludes that lack of knowledge and skill of ICT affect the teaching of computer education as many computer teachers do not have degree or NCE in computer education thereby not having the knowledge of computer and some teachers do not also know how to teach with computer thereby leading to poor performance in computer education. It was noted that non-availability of computer accessories affect the acquisition of computer education as most secondary schools do not have workable computer laboratories for the computer practical hence preventing teachers

from teaching computer practical to the students thereby leading to poor performance in computer education.

Recommendations

Based on the findings of the study, the following recommendations were made:
1. Government through the Ministry of Education should employ computer teachers based on their qualification, employing qualified teachers who have knowledge of computer and ICT skills hence making the teaching of computer interesting.
2. Government should provide computer accessories to schools, ensuring that each computer laboratory is well equipped with workable computer accessories such as scanner, photocopying machine, printer e.t.c in other to make the teaching of computer interesting and easy.

3. Schools need to strengthen career counselling and guidance so as to create positive attitude in students towards computer education.

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