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INFORMATION AND COMMUNICATION TECHNOLOGY UTILIZATION AND TEACHER'S EFFECTIVENESS IN BUSINESS EDUCATION IN RIVERS STATE OWNED UNIVERSITIES

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ABSTRACT

The study examined the relationship between information and Communication Technology Utilization and Teacher's effectiveness in Business Education in Rivers State owned Universities. The co relational research design was adopted for the study. two research questions and four null hypotheses were formulated to guide the study. The population of the was 43 teachers in Rivers State owned universities and the sample size was 43 teachers using census sampling techniques. The instrument for data was the research designed questionnaire which was validated. Data were analyzed using Pearson Product Moment Correlation Coefficient. the result of the findings showed that there is a significant relationship between access to Information and Communication Technology infrastructure an d active involvement of students class in universities in Rivers State owned universities ; there is a significant relationship between access to Information and Communication technology and the use of real-world examples in teaching Business Education in the universities in Rivers State. Based on the findings of the study, recommendations were made which include that the Rivers State ministry of education should revitalize and provide where necessary, information and communication gadgets in all the government owned universities in Rivers State.

Keywords: Information Communication Technology, Teachers Effectiveness, Business Education

INTRODUCTION

The role of education in human development is invaluable; provision of quality education results in development of quality and competent human resource central to achieving the national goals. The desire for effective teaching and learning has become a driving force in the 21st century. Teachers are critical in influencing teaching and learning processes in schools.

Teachers play the role of transforming socioeconomic conditions of society by educating children, equipping them with skills, knowledge and habits for survival in the ever-changing world (Amuche & Kukwi, 2013). As the role of workers in production is similar to the role of machinery and other forces of production, teachers are required for the process of producing students' learning outcomes.

Teachers have influence on not only test scores of students but also their socialand emotional development, their behaviours, knowledge and critical thinking development (Blazar & Kraft, 2017). Therefore, effective performance of teachers is paramount for any society.It is increasingly clear that highly qualified (having the necessary qualifications and certifications) does not necessarily predict highly effective teaching (teaching that improves students' learning). In considering teachers' effectiveness, it is important to note that effective teachers are clear about their instructional goals, are knowledgeable about the content, communicate well, monitor students' understanding, are thoughtful and respectful about their teaching practices. Effective teachers have knowledge, prepare and manage instruction, promote learning and help students to grow so they can learn independently. Fuhrman, Fuhrman and DeLay (2010) observed that effective teachers exhibit passion for their subjects, are knowledgeable about and care for students, use a variety of teaching strategies and help students appreciate the relevance of information to their own context. Sprinkle (2009) considered effective teachers as those who employ a variety of teaching styles and make real world applications, including the use of information and communication technology (ICT).

Today's teachers need to be competent to meet the requirements of changing classroom practice. As agents of change, teachers can promote quality education and improve students' performance in tertiary institutions. Equipping teachers with necessary teaching competencies will contribute to effective implementation of education reforms. Obanya (2010) posited that teachers remain essential actors and catalyst for change in all efforts aimed at promoting quality education in schools. In order to develop a responsive and effective teacher capable of undertaking the foregoing, Obanya (2010) argues that teachers require opportunities for continuous self-improvement; both career-long and career-wide opportunities that will enable them to acquire skills, knowledge and techniques needed for quality on the job performance. One of the skills and knowledge for teacher effectiveness in the present classroom instruction is information and communication technology (ICT).

Research hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between access to ICT infrastructure and active involvement of students in class in Tertiary Institutions in Rivers State.
2. There is no significant relationship between access to ICT infrastructure and and the use of real-world examples in teaching Business Education in Tertiary Institutions in Rivers State.

Concept of Information and Communication Technology (ICT)

The acronym ICT stand for Information and Communication Technology and is defined as a "diverse set of technological tools and resources used to communicate, to create, disseminate, store and manage information (Blurton, 1999). These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephone. Teaching process is a means through which the teacher, the learner, the curriculum and other variables are organized in a systematic manner to attain pre-determined goals and objectives.

It is important to note that the concept, methods and application of the term ICTs are constantly evolving rapidly; starting from the popularity of the issue of computers in education in the 1980s, when relatively cheap micro-computers became available for the consumer market, later, near the end of 1980s the term was replaced by IT (Information Technology); signifying a shift of focus from computing technology to the capacity to store, analyze and retrieve information. This was followed by the introduction of the term ICTs (Information Communication Technologies) around 1992 when email and World Wide Web (Internet) became available to the general public (Pelgrum & Law 2003).

Information and Communication Technology is at the very heart of the educational process, consequently ICT-use in education has a long history. Much has been written about the use of film, radio, telephones, and television in education (Cuban, 1986). Since access to digital tools, applications, and networks continues to grow worldwide and media are increasingly available in digital form, use of ICT in education is expected to increase dramatically. ICT provides a number of advantages, both essential and combined, which contribute to broaden and designate the procedures used inside the classroom (Kennewell, 2007).

As stated by Daniels (2002) ICT have become within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. As described in the United Nations, (1999) report ICT cover Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centers, commercial information providers, network-based information services, and other related information and communication activities.

The various kinds of ICT products available and having relevance to education are such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio

counseling, interactive voice response system, audiocassettes, video and audio tapes and CD ROMs.

Information communication technology according to Unagha (2006) encompasses computer and telecommunication. It is concerned with the technology used in handling acquiring processing, storing and dissemination of information. Thus, information communication technology is any technology used in producing, organizing and passing information through. Similarly, oxford advanced learners Dictionary sees ICT as electronic media used in processing analyzing storing and sending out information.

Evey et al. (2010) observed that ICT is innovative device that can carry out such functions as relieving, storing, computing, analyzing, transmitting and retrieving information presented to them and allowing for one to one or group communication among humans. Obashoro (2007) identify ICT infrastructure to include multimedia, CD ROMS, MP3 players, websites, discussion boards emails, computer aided assessments, learning management software, blogs etc. In the same vein, Folorunso, Longe and Ijere (2003) identified ICT infrastructure to include internet world wide network (www), Electronic data interchange (EDI) local area network (LAN) wide area network (WAN), and protocols contact management and metal data standard (MDS).

Access to ICT infrastructure and active involvement of students in class

An ICT infrastructure consists of Hardware and operating software, communications, and other components. It can also be defined as a set of shared IT resources which is a foundation for communication across the organization (Chanopas et al., 2006) where technical infrastructure consists of hardware, software, the network, telecommunications, applications, and tangible IT resources. IT-infrastructure can also be defined as the combination of hardware, software, people, procedure, and data that support the information flow in an organization (Shaw, 1999). The dimensions of IT-infrastructure can also be specified. According to Keen (1991), Reach and Range are the two dimensions. Reach is the defined as the locations to which the infrastructures can be linked and range is the breadth of information that can be directly shared among the components of a particular infrastructure (Weill, 1993). Therefore, for the purpose of this study IT-infrastructure can be defined as a combination of hardware, software and application components that aid in information storage and processing, along with integrated components such as the internet that help in flow of information in reach and range of educational purposes.

Access to ICT infrastructure ensures that learners are actively involved in the learning processes in ICT classrooms, they are authorized by the teacher to make decisions, plans, and so forth (Lu et al., 2010). Access to ICT therefore provides both learners and instructors with more educational affordances and possibilities. Access to ICT infrastructure ensures that students take control of their learning through their use of ICT. In this way, they become more capable of working by themselves and with others. Teachers can also authorize students to complete certain tasks with peers or in groups. Through collaborative learning with ICT, the students have more opportunity to build the new knowledge onto their background knowledge, and become more confident to take risks and learn from their mistakes.

Further, Serhan (2009) concluded that access to ICT fosters autonomy by allowing educators to create their own material, thus providing more control over course content than is possible in a traditional classroom setting. With regard to capability, once students are more confident in learning processes, they can develop the capability to apply and transfer knowledge while using new technology with efficiency and effectiveness.

Access to ICT infrastructure and and the use of real-world examples in teaching

A number of previous studies have shown that an access to ICT can raise educational quality and connect learning to real-life situations (Lowther et al., 2008; Weert & Tatnall, 2005). As Weert and Tatnall (2005) have pointed out, learning is an ongoing lifelong activity where learners change their expectations by seeking knowledge, which departs from traditional approaches. As time goes by, they will have to expect and be willing to seek out new sources of

knowledge. Skills in using ICT will be an indispensable prerequisite for these learners. Access to ICT infrastructure such as teleconferencing classrooms allow both learner and teacher to interact simultaneously with ease and convenience. With access to ICT, knowledge can be acquired through video clips, audio sounds, visual presentation among others (Castro Sánchez & Alemán 2011).

As Brush, Glazewski and Hew (2008) have stated, access to ICT serves as a tool for students to discover learning topics, solve problems, and provide solutions to the problems in the learning process. Access to ICT makes knowledge acquisition more accessible, and concepts in learning areas are understood while engaging students in the application of ICT. In their view, Castro Sánchez and Alemán (2011) observes that access to ICT help students to build new knowledge through accessing, selecting, organizing, and interpreting information and data. Based on learning through ICT, students are more capable of using information and data from various sources, and critically assessing the quality of the learning materials.

Access to ICT develops students' new understanding in their areas of learning (Chai, Koh & Tsai, 2010). Access to ICT provides students with more creative solutions to different types of learning inquiries. For example, in a business education class, e-books are commonly used in enhancing students' activities. Learners can access all types of texts from beginning to advanced levels with ease through computers, laptops, personal digital assistants (PDAs), or iPads. More specifically, these e-books may come with some applications, which offer a variety of relevant business education reading materials and topics. Therefore, ICT involves purpose designed applications that provide innovative ways to meet a variety of learning needs.

Koc (2005) mentioned that access to ICT enables students to communicate, share, and work collaboratively anywhere, any time. For instance, a teleconferencing classroom could invite students anywhere to gather together simultaneously for a topic discussion. They may have the opportunity to analyze problems and explore ideas as well as to develop concepts. They may further evaluate ICT learning solutions. Students not only acquire knowledge together, but also share diverse learning experiences from one another in order to express themselves and reflect on their learning.

Theory of Cognitive Flexibility (Spiro & Jehng, 1992)

The study employed the theory of Cognitive Flexibility (Spiro & Jehng, 1992). The theory of Cognitive flexibility suggests that learners grasp the nature of complexity more readily by being presented with multiple representations of the same information in different contexts. It emphasizes the ability to spontaneously restructure one's knowledge in many ways, in adaptive response to radically changing situational demands.

The theory largely concerns itself with transfer of knowledge and skills beyond their initial learning situation. Skills transfer can be described as learner's desire to use the knowledge and skills mastered in the training program on the job. Behavioral change would likely occur for learners who learn the material presented in training and desire to apply that new knowledge or skills to work activities.

For the teachers and students to use and develop ICT that facilitate teaching and learning they should be in position to demonstrate high cognitive flexibility. This puts emphasis on transfer of learning. Transfer of learning refers to the extent to which performance in one situation such as multimedia lesson is reflected in another situation such as working on the job or in a subsequent lesson. Therefore, teaching is often a precursor to apply or use that knowledge in the real world for students in the classrooms.

Research Design

The study adopted the correlational research design. This is because the study intends to ascertain the relationship between Information and Communication Technology utilization and teachers' effectiveness in Business Education in Rivers State owned tertiary institutions. This research design is also appropriate because it agrees with Nwankwo (2016) who opined that

correlational research design usually seeks to establish the relationship which exist between two or more variables.

Population of the Study

43 teachers in the Department of Business Education constituted the population of the study. This consisted of 13 teachers in the Department of Business Education, Ignatius Ajuru University of Education and 30 teachers in the Department of Business Education, Rivers State (source: Registrar's office, IAUE and RUS, 2023).

Sample and sampling technique

Instrument for Data Collection

The instruments for data collection for the study was the researcher's designed 20-item questionnaire titled "Information and Communication Technology Utilization and Teachers' Effectiveness Questionnaire (ICTUTEQ). The questionnaire was divided into two sections: A and B. Section A elicited the demographic data of the respondents, while items in section B were used to answer the research questions. The scoring and rating scale which were used to rate the instrument were: Strongly Agree (SA)=4, Agree (A)=3, Disagree (D)=2, Strongly Disagree (SD)=1.

Validation of the Research Instrument

The instrument was validated by the researcher's supervisor and two other specialists. One from the Department of Business Education and the other from measurement and evaluation in the Department of Educational Psychology, Guidance and Counseling in the Faculty of Education, Ignatius Ajuru University of Education for content and face validity. These experts carefully and critically examined the instrument in terms of relevance, content clarity and difficult level. The instrument was modified after due scrutiny from the specialists for face and content validity.

Reliability of the Instrument

The test-retest method was used in determining the reliability of the instrument. The instrument was pre-tested on 20 teachers in University of Port Harcourt who were not a part of the study to assess the reliability of the instrument. The reliability coefficient of the instrument wasdetermined using Pearson product moment correlation coefficient which gave a reliability index of .73. The instrument was therefore adjudged to be reliable for the study.

Administration of Instrument

The instrument was personally administered by the researcher, with the assistance of two trained research assistants. The researcher informed the research assistants on the methods of administering the questionnaire. To ensure maximum returns of the questionnaire, the copies of the questionnaire were administered and collected on the spot. All the 43 copies of the instrument that were administered were retrieved and used for analysis.

Method of Data Analysis

Data collected were analyzed using mean and standard deviation to answer the research questions, while Pearson Product Moment Correlation Coefficient was used to test the null hypotheses at 0.05 level of significance.

Results

Testing of null hypotheses

Null hypothesis one: There is no significant relationship between access to ICT infrastructure and active involvement of students in class in Tertiary Institutions in Rivers State.

Correlation coefficient between access to ICT infrastructure and active involvement of students

		Access to ICT infrastructure	Active involvement of students
Access to ICT infrastructure	Pearson Correlation	1	.481**
	Sig. (2-tailed)		.006
	N	43	43
Active involvement of students	Pearson Correlation	.481**	1
	Sig. (2-tailed)	.006	
	N	43	43

**. Correlation is significant at the 0.01 level (2-tailed).

Table above showed the Correlation coefficient between access to ICT infrastructure and active involvement of students in class in Tertiary Institutions in Rivers State. The correlation between access to ICT infrastructure and active involvement of students in class was significant at (r=.481, p<.000). Therefore, the null hypothesis is rejected. This means that there is a significant moderate and positive relationship between access to ICT infrastructure and active involvement of students in class in Tertiary Institutions in Rivers State.

Null hypothesis two: There is no significant relationship between access to ICT infrastructure and the use of real-world examples in teaching Business Education in Tertiary Institutions in Rivers State.

Correlation coefficient between access to ICT infrastructure and the use of real-world examples in teaching Business Education

		Access to ICT infrastructure	Use of real world examples in teaching Business Education
Access to ICT infrastructure	Pearson Correlation	1	.870**
	Sig. (2-tailed)		.000
	N	43	43
Use of real world examples in teaching Business Education	Pearson Correlation	.870**	1
	Sig. (2-tailed)	.000	
	N	43	43

**. Correlation is significant at the 0.01 level (2-tailed).

Table above showed the Correlation coefficient between access to ICT infrastructure and the use of real-world examples in teaching Business Education in Tertiary Institutions in Rivers State. The correlation between access to ICT infrastructure and the use of real-world examples in teaching Business Education was significant at (r=.870, p<.000). Therefore, the null hypothesis is rejected. This means that there is a significant high positive relationship between access to ICT infrastructure and the use of real-world examples in teaching Business Education in Tertiary Institutions in Rivers State.

43 teachers were sampled for the study using the Census sampling technique. The 43 teachers were sampled for the study since the population of the study was small and was not large enough for any randomization.

Discussion of findings

The findings in hypothesis one shows that there is a significant relationship between access to ICT infrastructure and active involvement of students in class in Tertiary Institutions in Rivers State. This finding is in agreement with the views of Lu, Hou and Huang (2010) who states that access to ICT infrastructure ensures that learners are actively involved in the learning processes in ICT classrooms, they are authorized by the teacher to make decisions, plans, and so forth . Access to ICT infrastructure ensures that students take control of their learning through their use of ICT. In this way, they become more capable of working by themselves and with others. Also, the findings of the study corroborates the views of Serhan (2009) who concludes that access to ICT fosters autonomy by allowing educators to create their own material, thus providing more control over course content than is possible in a traditional classroom setting. With regard to capability, once students are more confident in learning processes, they can develop the capability to apply and transfer knowledge while using new technology with efficiency and effectiveness. Furthermore, the finding of the study is in agreement with the finding of Sellinger (2003) who found that access to ICT generates enthusiasm, interest and involvement in student learning. It is an amalgamation of enthusiasm, a positive self-concept, a keen interest to learn or put differently intellectual curiosity, high level of student involvement in learning, that help in creating a conducive environment for learning on the part of students on one hand and for teaching on the part of the teachers on the other.

Findings in hypothesis two shows that there is a significant relationship betweenaccess to ICT infrastructure and the use of real-world examples in teaching Business Education in Tertiary Institutions in Rivers State. This finding is in agreement with the views of Brush, Glazewski and Hew (2008) who have states that access to ICT serves as a tool for students to discover learning topics, solve problems, and provide solutions to the problems in the learning process. Access to ICT makes knowledge acquisition more accessible, and concepts in learning areas are understood while engaging students in the application of ICT. Again, the finding of the study agrees with the views of Castro Sánchez and Alemán (2011) who observes that access to ICT help students to build new knowledge through accessing, selecting, organizing, and interpreting information and data.

CONCLUSION

Information and Communication Technology greatly enhance the effectiveness of teachers. The information and communication technology functions as a link in the teaching/learning experience. The teaching in higher institutions could be herculean to the teacher. To this end, the information and communication technology could help the teacher for effective lesson delivery and enhanced students' actively involvement in the teaching/learning experience.

RECOMMENDATIONS

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

(1) The Rivers State Ministry of Education should revitalize and provide where necessary information and technology gadgets in all the government owned higher institutions in the state.
(2) Teachers should employ the use of information and communication gadgets in the teaching/learning experience in the Business Education classroom in higher institutions of the state.

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