



# **I**NFORMATION AND COMMUNICATION TECHNOLOGY COMPETENCIES REQUIRED BY LECTURERS FOR THE REALIZATION OF THE OBJECTIVES OF BUSINESS EDUCATION IN NIGERIA

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## **Abstract**

*The study was conducted in Rivers State to identify ICT competencies required by lecturers for the realization of the objectives of business education. Two research questions and two null hypotheses were developed to guide the study. Descriptive survey research design was adopted. A total of 71 lecturers of business education in the four tertiary institution offering business education programme in Rivers State constituted the population for the study. Due to the manageable size of the population, the entire 71 business education lecturers for the four tertiary institutions in the State were involved in the study, therefore, there was no sampling. The instrument for data collection for the study was a structured 48-item questionnaire titled: "Information and Communication Technology Competencies Questionnaire (ICTCQ). The questionnaire was structured on 4-point rating scale of: Highly Required (HR), moderately Required (MR), Less Required (LR) and Not Required (NR) with corresponding values of 4, 3, 2, and 1 respectively. The instrument was validated by three experts while the Cronbach alpha reliability coefficient of the instrument yielded 0.86 indicating high reliability of the instrument. Data collected were analyzed using mean for answering the research questions while analysis of variance (ANOVA) was used for testing the null hypotheses at 0.05 level of significance. Based on the data collected and analyzed, the study identified 12 word processing, 13 spreadsheet, 10 and computer graphics and 13 internet competencies required by business education lecturers for realization of the objectives of business education in tertiary institution in Rivers State. Hence, the study among others recommended that the identified ICT competencies in word processing, spreadsheet, graphic and internet should be used for retaining of teachers and lecturers for effective use of ICTs for teaching and learning in Nigerian schools.*

**Keywords:** *Information, Communication, Technology, Business Education.*

## **INTRODUCTION**

The improvement in societal awareness for economic development has resulted in the demands for change in content, organization and delivery of vocational and technical curricular to reflect a new emphasis on technology. As a matter of fact, vocational and technical education has as part of the major objectives to develop not only practical skills



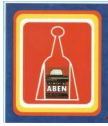
but also attitudes and habits that make the recipient a creative, innovative and resourceful person in the society (World Bank, 2006). The report of National Commission for Colleges of Education (2012) highlighted vocational programmes in Nigerian tertiary institutions to include: Automobile, Building, Electrical/Electronics, Metalwork and Woodwork technology while vocational aspect was outlined into Agricultural, Fine and Applied Arts, Home Economics and Business education. Business education as a vocational trade is an aspect of total educational programme which provides the recipient with knowledge, skills, understanding and attitude needed to perform well in the business world as a producer or consumer of goods and services (Abdullahi, 2002). In the opinion of Osuala (2004), business education is a broad area of knowledge that deals with a nation's economic system and also identifies and explains the rate of business contentment and experience that prepare individuals for effective participation as citizens, workers and consumers. The National Open University of Nigeria (NOUN) (2008) described business education as an aspect of vocational education that equips people with necessary skills and theoretical knowledge needed for performance in business world either for paid occupation or self-employment. Gidado and Akaeze (2014) shared that through learning in business education, learners are exposed to the economic system of their country and equips them with lifelong skills that would enable them to make reasonable judgment as a producer (entrepreneur), employee or consumer of goods and services. According to Aliyu (2013), some of the objectives of business education include the need for specialized instruction to prepare students for career in business, developing in student's fundamental instruction to help them assume their economic roles as consumers, workers and citizens and equipping them with background instruction to assist them in preparing for professional careers interest for advanced study. In order to ensure the achievement of the above objectives of business education, the acquisition and possession of relevant information and communication technology (ICT) competencies by the teachers is imperative.

Information and Communication Technology (ICT) involves the use of computers and other electronic devices to process information. The use of information and communication technologies (ICTs) is fast gaining prominence and becoming one of the most important elements defining the basic competencies in education system. Howell and Lundall (2000) described ICTs as all forms of technology used to create, store, process and use information in its various forms (data, voice, image and multi-media presentations) to facilitate and support communication. In the view of Chinien (2001), ICT deals with digital data and ways of storing, retrieving, transmitting and receiving information. According to World Bank (2006), ICT consists of the hardware, software, networks, and media for the collection, storage, processing, transmission, and presentation of information. The use of ICT falls into four major categories which include: (i) constructing knowledge and problem solving (through the Internet, email,



CD-ROMs, databases, video conferencing); (ii) using process skills; (iii) aiding explanation of concepts; and (iv) communicating ideas (powerpoint, desktop publishing) (Aladejana, 2007). ICT facilitates communication, increase access to learning for students, stimulate a wide range of scientific phenomenon and generally motivate both teachers and students, develop problem solving capabilities and aid deeper understanding (Selinger, 2002). In this study, effective application of ICT skills by lecturers for teaching Business education is delimited to cover major aspects of basic ICT which include: word processing, spreadsheet, and graphic and internet skills. Word processing and spreadsheet are programmes found in Microsoft office. Word processing is the writing, editing and production of documents such as letters, reports and books through the use of a computer programmed or a complete computer system designed to facilitate rapid and efficient manipulation of text (Onyewuenyi, 1994). On the other hand, spreadsheet is a computer programme that displays numerical data in cells in a simulated accountant's worksheet of rows and columns in which hidden formulas can perform calculations on the visible data (Microsoft Encarta, 2010). Other aspects of ICT skills that are considered relevant in the vocational technical education include the use of computer graphics and internet. Computer graphics generally pertains to any computer device or programme that makes a computer capable of displaying and manipulating pictures. Ezeasomba (2004) defined internet as a global connection of millions of computers in a single network. It is a worldwide network of computers. This connection allows people to share information like data, programmes, pictures and music through acquisition and the application of relevant ICT skills and competencies.

Competency, according to Olaitan (2003) means knowledge, skills, attitudes and judgment generally required for the successful performance of a task. Oliva (2002) posited that competency involves knowledge, skills, attitudes, values, motivation and beliefs people need in order to be successful in a job. In the opinion of Katane (2001), competency of the teachers in teaching profession has to do with the ability of a teacher to integrate different kinds of knowledge and use them synergically for instructional delivery. Effective teaching of Business education in any learning environment requires demonstration of various competencies which invariably enable students to learn by improving their knowledge, skills, attitudes and values. The lecturers of business education are vital in the impartation of required skills to the students through the acquisition and possession of the required ICT competencies. It is imperative to state that the ineffective use of modern facilities/infrastructure such as ICTs are major challenges facing contemporary teaching and learning in Nigerian schools because where the required ICT facilities are provided for teaching, they are not well utilized by teachers of lecturers due to inadequate competencies in using the ICTs for teaching. To buttress this point, Jegede (2005) observed that most Nigerian teachers lack basic skills and competencies required for effective use of ICTs for teaching and learning. The case of



business education lecturers in using ICT facilities is not an exemption. It is globally recognized that the use of ICT in teaching and learning is a relevant and functional way of providing education to learners that will assist in imbuing in them the required capacity for the world of work (Aladejana, 2007). In addition, effective application of ICTs in teaching will also facilitate the realization of stated objectives of any educational programme through improved innovativeness, curiosity and creativity of the learners. It is only very few jobs today that do not require the use of skills in ICTs. In fact, World Bank (2006) stated that effective use of information and communication facilities in schools will definitely contribute to the realization of Millennium Development Goals. Recognizing the significance of the use of ICTs in school, it is imperative to identify ICT competencies required by lecturers for the realization of the objectives of Business education in Nigeria using River State as case study.

### **Purpose of Study**

The major purpose of this study was to identify information and communication technology (ICT) competencies required by lecturers for the realization of the objectives of business education in Nigeria. The specific purposes of the study were to identify:

- i. Word processing and spreadsheet competencies required by lecturers for the realization of the objectives of business education,
- ii. Computer graphics and internet competencies required by lecturers for the realization of the objectives of business education.

### **Research Questions**

Based on the specific purposes of the study, the study answered the following research questions:

- i. What are word processing and spreadsheet competencies required by lecturers for the realization of the objectives of business education?
- ii. What are computer graphics and internet competencies required by lecturers for the realization of the objectives of business education?

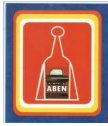
### **Hypotheses**

**H01:** There is no significant difference in the mean ratings of the respondents on word processing and spreadsheet competencies required by lecturers for the realization of the objectives of Business education based on their academic qualifications.

**H02:** There is no significant difference in the mean ratings of the respondents on computer graphics and internet competencies required by lecturers for the realization of the objectives of Business education based on their years of working experience.

### **Method**

The study was conducted in River States, South-south Nigeria. Two research questions and two null hypotheses were developed to guide the study. Descriptive survey



research design was adopted for the study. Descriptive survey research design according to Nworgu (2006) is one in which a group of people or items are studied by collecting and analyzing data from a few people or items considered to be the representative of the entire group. Through survey design, Osuala (2001) stated that researchers obtain vital information and facts about people, their beliefs, opinions, attitudes and behaviours. Therefore, descriptive survey design was found suitable for this study because questionnaire was used to collect data from business education lecturers on the ICT competencies required by lecturers for the realization of the objectives of business education.

The population for the study was the 71 lecturers of business education in the four tertiary institution running business education programme in Rivers State. These include: Federal College of Education (Technical) Omoku with 26 business education lecturers; River State University, Port Harcourt with 15 business education lecturers; Ignatius Ajuru University of Education Port Harcourt with 13 business education lecturers and University of Port Harcourt with 17 Business education lecturers. Due to the manageable size of the population, the entire 71 Business education lecturers for the four tertiary institutions in the State were involved in the study, therefore, there was no sampling. The instrument for data collection for the study was a structured 48-item questionnaire titled: "Information and Communication Technology Competencies Questionnaire (ICTCQ). The questionnaire was structured into 4-point rating scale of: Highly Required (HR), Moderately Required (MR), Less Required (LR) and Not Required (NR) with corresponding values of 4, 3, 2, and 1 respectively. The instrument was validated by three experts; one from the Department of Vocational Teacher Education, University of Nigeria, Nsukka and two from Department of Vocational and Technology Education, Niger Delta University Wilberforce Island, Bayelsa State.

For the purpose of obtaining the internal consistency of the instrument, Cronbach Alpha reliability method was used in which a Cronbach alpha coefficient of 0.86 was obtained indicating high reliability of the instrument. The data collection for the study was carried out with the help of two research assistants who joined the researchers making four enumerators for quality data collection for the study; in that case each enumerator cover one school. All the 71 copies of the questionnaire administered were retrieved indicating 100% rate of return. Data collected were analysed using mean for answering the research questions while analysis of variance (ANOVA) was used for testing the null hypotheses at 0.05 level of significance.

In taking decision on the research questions, cut-off point value of 2.50 on 4-point rating scale was used to interpret the results as "Required" or "Not required". In that case, items with mean values of 2.50 and above were regarded as "Required" and otherwise "Not Required". On the hypotheses tested, the null hypothesis of no significant difference was accepted for items whose p-values were greater than 0.05 level of significance while



hypothesis of no significant difference was rejected for items whose p-value were less than 0.05 level of significance.

**Results**

The results from research questions and null hypotheses tested are presented in Tables 1 and 2 below.

**Research Question One**

What are word processing and spreadsheet competencies required by lecturers for the realization of the objectives of business education?

**H0<sub>1</sub>:** There is no significant difference in the mean ratings of the responses of the respondents on word processing and spreadsheet competencies required by lecturers for the realization of the objectives of Business education based on their academic qualification.

The data for answering research question one and testing hypothesis one are presented in Table 1 below.

**Table 1: Mean Ratings and Analysis of Variance of the Responses of Lecturers of Business Education on Word Processing and Spreadsheet Competencies Required by the Lecturers for the Realization of the Objectives of Business Education base on their Academic Qualifications (N = 71)**

SN	Competencies required in word processing:	Total Sum of Square	Mean Square	$\bar{X}_G$	SD	p-value	Remarks RQ H0
1	Document creating competencies	82.421	0.304	<b>3.54</b>	0.78	0.33	<b>Rqd NS</b>
2	Document previewing competencies	63.158	0.298	<b>3.46</b>	0.71	0.14	<b>Rqd NS</b>
3	Creating/inserting of tables, symbols and pictures on documents	54.671	0.373	<b>3.37</b>	0.87	1.00	<b>Rqd NS</b>
4	Designing and separation of colours	55.737	0.583	<b>3.47</b>	0.83	1.00	<b>Rqd NS</b>
5	Ability to use scanners to capture pictures and images	60.320	0.424	<b>3.55</b>	0.77	0.15	<b>Rqd NS</b>
6	Competencies in creating http/html document	67.737	0.432	<b>3.24</b>	0.60	0.72	<b>Rqd NS</b>
7	Backing up your documents and publications on CDs, DVDs or other data storage devices	70.408	0.482	<b>3.17</b>	0.63	0.04	<b>Rqd S*</b>
8	Mail merging competencies	52.451	0.330	<b>3.27</b>	0.85	0.22	<b>Rqd NS</b>
9	Applying macros competencies	62.360	0.321	<b>3.34</b>	0.66	0.70	<b>Rqd NS</b>
10	Spell checking, Thesaurus, proof reading competencies	53.632	0.604	<b>3.64</b>	0.79	0.44	<b>Rqd NS</b>
11	Creating an equity fax using templates	55.666	0.383	<b>3.60</b>	0.74	0.22	<b>Rqd NS</b>
12	Use of drawing tools	65.817	0.783	<b>3.45</b>	0.69	0.37	<b>Rqd NS</b>
13	Saving/opening of documents	61.300	0.534	<b>3.49</b>	0.54	0.48	<b>Rqd NS</b>
	<b>Competencies required in spreadsheet</b>						
14	Understands the structure of a	73.403	0.253	<b>2.77</b>	0.78	0.03	<b>Rqd S*</b>



	spreadsheet							
15	Enters data (labels, values) in a cell	61.978	0.250	<b>2.60</b>	0.64	0.09	<b>Rqd NS</b>	
16	Formats data in a cell eg. bold, alignment	69.016	0.305	<b>3.54</b>	0.78	0.33	<b>Rqd NS</b>	
17	Generates appropriate graphs eg. bar, column, line	70.532	0.408	<b>3.46</b>	0.71	0.14	<b>Rqd NS</b>	
18	Uses sum formula and undertakes basic calculations	73.452	0.185	<b>3.37</b>	0.83	1.00	<b>Rqd NS</b>	
19	Competencies in sorting data	66.156	0.248	<b>3.47</b>	0.80	1.00	<b>Rqd NS</b>	
20	Opens and uses a commercial database eg. electronic encyclopedias	56.156	0.110	<b>3.43</b>	0.66	0.15	<b>Rqd NS</b>	
21	Locates specific record(s) using find function	86.306	0.206	<b>3.35</b>	0.72	0.72	<b>Rqd NS</b>	
22	Uses relevant fields	84.285	0.455	<b>3.59</b>	0.83	0.01	<b>Rqd S*</b>	
23	Chooses appropriate data types for fields	79.726	0.312	<b>3.34</b>	0.85	0.22	<b>Rqd NS</b>	
24	Adds/deletes records	70.866	0.387	<b>3.38</b>	0.61	0.70	<b>Rqd NS</b>	
25	Edits data in an existing record	62.156	0.110	<b>3.66</b>	0.79	0.03	<b>Rqd S*</b>	

**Key:**  $\bar{X}_G$  = Overall Grand Mean; **Rqd** = Required; **N** = No of Respondents; Level of Sig. = 0.05; **RQ** = Research Question; **HO** = Hypothesis; **S\*** = Significant; **NS** = Not Significant.

The data presented in Table 1 show that the grand mean ratings of the responses of the respondents on the 25 items in the table ranged between 2.60 to 3.66 on 4-point rating scale. This indicated that all the 25 items in the table are word processing and spreadsheet competencies required by lecturers for the realization of the objectives of business education.

On the hypothesis one, the data in the Table shows that the p-values of 21 out of the 25 items in the table ranged between 0.09 to 1.00 which are greater than 0.05 level of significance. This implied that there are no significant differences in the mean ratings of the responses of the Business education lecturers based on their academic qualification on the word processing and spreadsheet competencies required by the lecturers for the realization of the objectives of Business education. Hence, the hypothesis of no significant difference in the mean ratings of the responses of the lecturers based on their academic qualification is accepted on the 21 competency items in the table. The p-values on the remaining four items in the table, specifically items 7, 14, 22, and 25 were 0.04, 0.03, 0.01 and 0.03 respectively which were all less than 0.05 level of significant. This indicated that there are significant differences in the mean ratings of the responses of the Business education lecturers based on their academic qualification on the four competency items. Therefore, the hypothesis of no significant difference in the mean ratings of the responses of the lecturers based on their academic qualification is rejected on the four competency items in the table.



### Research Question Two

What are computer graphics and internet competencies required by lecturers for the realization of the objectives of business education?

**H<sub>02</sub>:** There is no significant difference in the mean ratings of the responses of the respondents on computer graphics and internet competencies required by lecturers for the realization of the objectives of business education based on their years of working experience.

The data for answering research question two and testing hypothesis two are presented in Table 2 below.

**Table 2: Mean Ratings and Analysis of Variance of the Responses of Lecturers of Business Education on Computer Graphics and Internet Competencies Required by the Lecturers for the Realization of the Objectives of Business Education base on their Years of Working Experience (N = 71)**

SN	Competencies required in computer graphics	Total Sum of Square	Mean Square	$\bar{X}_G$	SD	p-value	Remarks RQ H0
1	Using freehand drawing tools-pencil, straight and curved lines	73.726	0.320	<b>3.67</b>	0.74	0.29	<b>Rqd NS</b>
2	Using shape tools/objects and text tool like: shape tool, polygon, spiral and graph paper tool etc	68.866	0.387	<b>3.61</b>	0.88	0.03	<b>Rqd S*</b>
3	Using paintbrush, paint box /fill with colour, spray can/air brush, eraser	64.156	0.210	<b>3.54</b>	0.77	0.37	<b>Rqd NS</b>
4	Selecting objects with selection object tool	66.478	0.355	<b>3.50</b>	0.82	0.48	<b>Rqd NS</b>
5	Inserting graphics from various sources e.g. clip art, digital image	73.726	0.315	<b>3.54</b>	0.81	0.73	<b>Rqd NS</b>
6	Moving and changing of the size of displayed clip art/graphics	83.403	0.273	<b>3.52</b>	0.76	0.04	<b>Rqd S*</b>
7	Using a digital camera to create a graphic file	76.904	0.359	<b>3.45</b>	0.81	0.20	<b>Rqd NS</b>
8	Using scanner to convert a picture into a graphic file	69.465	0.462	<b>3.54</b>	0.61	0.33	<b>Rqd NS</b>
9	Working with the menus eg file , view, edit, etc	62.330	0.331	<b>3.44</b>	0.88	0.14	<b>Rqd NS</b>
10	Using fill pattern/ colours/ shading and flipping and rotating of objects	55.732	0.624	<b>3.37</b>	0.85	0.56	<b>Rqd NS</b>
<b>Internet Competencies</b>							
11	Creating a web page competencies	63.550	0.572	<b>3.37</b>	0.92	0.15	<b>Rqd NS</b>
12	Accessing information from internet	70.602	0.655	<b>3.55</b>	0.79	0.72	<b>Rqd NS</b>

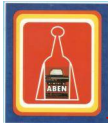


	to a different application competencies						
13	Downloading / uploading information from/on the web competencies	56.481	0.430	<b>3.48</b>	0.71	0.46	<b>Rqd NS</b>
14	Teleconferencing competencies	65.685	0.438	<b>3.46</b>	0.81	0.22	<b>Rqd NS</b>
15	Composing and sending of email competencies	63.558	0.575	<b>3.45</b>	0.75	0.08	<b>Rqd NS</b>
16	Understands and uses key words in a simple search	70.603	0.654	<b>3.64</b>	0.74	0.24	<b>Rqd NS</b>
17	Uses and understands hyperlinks / navigation buttons	67.396	0.351	<b>3.57</b>	0.84	0.31	<b>Rqd NS</b>
18	Chooses appropriate sites from a search	58.444	0.572	<b>3.59</b>	0.77	0.02	<b>Rqd S*</b>
19	Contributes to the creation of a basic web-page - text, graphics, hyperlinks	63.482	0.437	<b>3.49</b>	0.82	0.90	<b>Rqd NS</b>
20	Interprets features of a new message	54.640	0.405	<b>3.46</b>	0.91	0.70	<b>Rqd NS</b>
21	Interprets features of a retrieved message eg. From, Date sent, Reply, Forward	59.454	0.376	<b>3.57</b>	0.86	0.23	<b>Rqd NS</b>
22	Retrieves and replies to an email	64.312	0.353	<b>3.48</b>	0.77	0.11	<b>Rqd NS</b>
23	Sends an attachment with an email	71.550	0.516	<b>3.34</b>	0.65	0.73	<b>Rqd NS</b>

**Key:**  $\bar{X}_G$  = Overall Grand Mean; **Rqd** = Required; **N** = No of Respondents; Level of Sig. = 0.05; **RQ** = Research Question; **HO** = Hypothesis; **S\*** = Significant; **NS** = Not Significant.

From the data presented in Table 2, it was revealed that the grand mean ratings of the responses of the respondents on the 23 items in the table ranged between 3.34 to 3.67 on 4-point rating scale. This indicated that all the 23 items in the table are computer graphics and internet competencies required by lecturers for the realization of the objectives of business education.

On the hypothesis two, the data in the Table shows that the p-values of 20 out of the 23 items in the table ranged between 0.08 to 0.90 which are greater than 0.05 level of significance. This indicated that there are no significant differences in the mean ratings of the responses of the business education lecturers based on their years of experience on the computer graphics and internet competencies required by lecturers for the realization of the objectives of business education. Therefore, the hypothesis of no significant difference in the mean ratings of the responses of the lecturers based on their experiences is accepted on the 20 competency items in the table. The p-values on the remaining three items in the table, specifically items 2, 6 and 18 are 0.03, 0.04 and 0.02 respectively which were all less than 0.05 level of significant. This indicated that there are significant differences in the mean ratings of the responses of the business education lecturers on the remaining three competency items based on their years of teaching experience. Hence, the hypothesis of no significant difference in the mean ratings of the responses of the

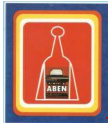


lecturers based on their years of teaching experience is rejected on the three competency items in the table.

### **Discussion of Findings**

The findings of this study in respect to research question one showed that Business education lecturers required the following word processing and spreadsheet competency items for the realization of the objectives of business education which include: document creating competencies, document previewing competencies, designing and separation of colours, competencies in creating http/html document, mail merging competencies, applying macros competencies, creating an equity fax using templates, understands the structure of a spreadsheet, competencies in sorting data, opens and uses a commercial database e.g. electronic encyclopedias, using relevant fields, chooses appropriate data types for fields and editing data in an existing record among others. The findings of this study agreed with that of Nwosu (2002) who conducted a research to determine word processing and electronic office operations' competencies needed by secretaries in offices in Abia and Imo States to include: creating word document, previewing documents and publication, creating/inserting of tables, symbols and pictures on documents, ability to use scanners to capture pictures and images, and ability to create http/html document among others. The findings of this study on the spreadsheet skills corroborated the finding of Ishiyaku (2012) who found that vocational education graduates needed spreadsheet skills such as: understanding the purpose/structure of a spreadsheet, interpreting data from an existing spreadsheet, understanding terminology - column, row, cell, cell range, understanding cell addressing, understanding active cell, entering data (labels, values) in a cell, formatting data in a cell e.g. bold, alignment, generating appropriate graphs e.g. bar, column, line, changing column width and row height, adding/deleting row/columns, using sum formula and undertaking basic calculations, formatting data to currency, time, number, percentage, sorting data and understanding strengths and weaknesses of a spreadsheet.

The findings of this study as regards research question two revealed that Business education lecturers required the following computer graphics and internet competencies for the realization of the objectives of business education which include: using freehand drawing tools-pencil, straight and curved lines, selecting objects with selection object tool, inserting graphics from various sources e.g. clip art, digital image, using scanner to convert a picture into a graphic file, working with the menus e.g file , view, edit, etc, creating a web page competencies, accessing information from internet to a different application competencies, teleconferencing competencies, composing and sending of email competencies, understands and uses key words in a simple search, interprets features of a new message, retrieving and replying to an email and sending an attachment with an email among others. The findings of this study on computer graphic skills corroborated the result of the study of Ahmed (2006) who found that using analog-to-



digital conversion techniques, variety of devices-such as curve tracers, digitizers, and light pens-connected to graphic computer terminals, using computer-aided design programs, selecting objects with selection object tool, using scanner to convert a picture into a graphic file and using freehand drawing tools-pencil are some of the major computer graphic skills needed by technical and vocational education graduates for work on graduation. Also, the findings of this study is in agreement with that of Bello (2004) who carried out a study to assess effective utilization of information and communications technology for boosting research in Nigeria. In the study, the researcher found out that internet skills such as good understanding of web browser and application of the right web-based command are required for effective use of ICT in Nigeria.

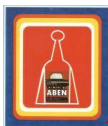
### **Conclusions**

The need for ICT skill update of teachers and lecturers for effective teaching in contemporary society is imperative and perhaps necessitated this study. The study was considered necessary because of the continuous low ICT skills and competencies among teachers and lecturers which of cause affect their teaching in modern days. When the teaching is not effective, the rate of assimilation of the learners and their interest in learning diminishes which undermine the realization of the objectives of school programme such as Business education. Of recent, there has been increasing rate of unemployment among school graduates, majority of which are graduates of vocational and technical education who may latter get involved in anti-social activities for survival due to lack of job. This condition further worsened the present security situation in south-south Nigeria and River State in particular. In order to search for way to enhance the realization of the stated objectives of business education through efficient teaching of its contents with ICT skilled lecturers for improved quality of business education graduates, this study was carried out to identify ICT competencies required by lecturers for the realization of the objectives of business education in Nigeria in Rivers State. Based on the data collected and analysed, the study identified 12 word processing, 13 spreadsheet, 10 and computer graphics and 13 internet competencies required by business education lecturers for realization of the objectives of Business education in tertiary institution in Rivers State. The study thereby concluded that the acquisition and possession of ICT competencies in word processing, spreadsheet, graphic and internet by lecturers will greatly enhance the realization of stated objectives of business education and other academic programmes in tertiary institutions in Nigeria.

### **Recommendations**

The following recommendations are made:

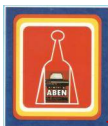
1. That the identified ICT competencies in word processing, spreadsheet, graphic and internet should be used for retaining of teachers and lecturers for effective use of ICTs for teaching and learning in Nigerian schools.



2. That the identified ICT competencies in word processing, spreadsheet, graphic and internet should be adopted by curriculum planners at state and federal levels to further improve the existing curriculums of vocational and technical education in the states and the nation in general.
3. That the States governments through its ministry of education should help package the identified ICT skills items in word processing, spreadsheet, graphic and internet into programmes for training the idle graduates for self or paid-employment in the states.

## **REFERENCES**

- Abdullahi, A. (2002). Business education, technology and national development. *Book of reading in Business education*, 1 (2) 1-5.
- Ahmed, M. K. (2006). The Relevance of Computer Graphics Skills in Technical Vocational Education and Training. *Journal of Technology Education*, 4 (2) 36 – 48.
- Aladejana, F. (2007). The Implications of ICT and NKS for Science Teaching: Whither Nigeria. *Complex Systems*, (17) 113–124.
- Aliyu, M. M. (2013). *Subject method for business teachers*. Kaduna: Sunjo A.J. Global Limited.
- Bello, S. A. (2004) Assessment of the Utilization of Information and Communications Technology in Nigeria Research. *International Journal of Information and Communications Technology*, 3 (1) 23 – 36.
- Chinien, C. (2001). A Framework for evaluating the effectiveness of Instructional Materials. *Performance and Instruction Journal*. 33 (3) 15 – 18.
- Ezeasomba, I. N. (2004). *Introduction to Computers and Internet Technology*. Onitsha: Comic Production.
- Gidado, S. D and Akaeze, P. (2014). Role of Business Education in Promoting Entrepreneurship in Nigeria. *International Journal of Academic Research in Progressive Education and Development*, 3 (4) 72 – 77.
- Howell, C and Lundall, M (2000). Introduction to the Evaluation study: International Development Center. *Information and Communication Technologies for Development in Africa*. Vol 3.
- Ishiyaku, D. D. (2012). Computer Skills required by NCE Business Education Graduates for Self Employment on Graduation in Kano State. *An Unpublished PGDTE Project* Submitted to the Department of Vocational Teacher Education, University of Nigeria, Nsukka.
- Jegede, P. O. (2005). A Study of the Predictors of Teacher Educators' Behaviour towards ICT in Southwestern Nigeria," unpublished Ph.D. Thesis submitted to the



- Department of Special Education and Curriculum Studies, Obafemi Awolowo University, Ile-Ife, Nigeria, 2005.
- Katane, I. (2001). Teacher Competence and further education as priorities for sustainable development of rural school in Latvia. *Journal of teacher education and Training* 6, 41 – 59.
- Microsoft (2010) *Microsoft Office Is Right at Home*". Retrieved January 14<sup>th</sup>, 2015 from <http://www.microsoft.com/presspass/>
- National Open University of Nigeria (2008). *Business education methods*. Lagos: National Open University of Nigeria.
- NCCE (2012). Nigerian certificate in education Minimum Standards and Technical Education (2012 Edition). Abuja: National Commission for Colleges of Education.
- Nworgu, B.G. (2006). *Educational research: Basic issues and methodology*. Ibadan: Wisdom Publisher Ltd.
- Nwosu, S. (2002). Competencies in Office information system for a Sustainable secretarial studies programme in the 21<sup>st</sup> century: A critical analysis on *Business Education Journal*. 2(1) 253 - 258.
- Olaitan, S.O. (2003). *Understanding curriculum*. Nsukka: Nudim Printing and Publishing Company.
- Oliva, P.F., (2002). *What are the essential generic teaching competences: Theory into practice*. 19. 117 – 121.
- Onyewuenyi, R. N. (1994) *Microcomputer studies for beginners*. Nsukka: SNAAP Press Nig. Ltd.
- Osuala, E. C, (2001). *Introduction to research methodology*. Onitsha: Africana-FEB Publishers Ltd.
- Osuala, E.C. (2004). *Foundation of vocational education* (5th ed).Enugu: Cheston Agency Ltd.
- Selinger, M. (2002). Information and Communication Technology in Schools. *Journal of Information Technology for Teacher Education*. 5(3), 217 – 218.
- World Bank. (2006). The role of ICT in doing business. In *Information and Communications for Development: Global Trends and Policies*. Washington, DC: World Bank.