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# Internet and Data Processing Skills Needed by Teachers of Business Studies in Boarding Secondary Schools in Ebonyi State

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**Abstract:** *This study identified the Internet and Data Processing Skills Needed by Teachers of Business Studies in Boarding Secondary Schools in Ebonyi State. Four research questions and three null hypotheses guided the study. The study adopted a descriptive survey design and focused on boarding secondary schools in Ebonyi State. The population of the study comprised all the 157 business studies teachers in the 31 boarding secondary schools in Ebonyi State. There was no sampling because the population was relatively small. The instrument for data collection was structured questionnaire developed by the researcher on the ICT skills. The ICT skills questionnaire was face validated by three experts from Ebonyi State University, 3 from business education and two from measurement and Evaluation. The reliability of the questionnaire was determined using Cronbach Alpha reliability procedure. The entire questionnaire instrument yielded an alpha 0.84 which shows that the instrument was reliable for the study. Data was analyzed using mean and standard deviation for the research questions while the hypotheses were tested at 0.05 level of significance using t-test and analysis of Variance (ANOVA). The finding of the study revealed that business studies teachers in boarding secondary schools needed Internet skills and data processing skills to a very high level. In addition, the null hypotheses which stated that there is no significant difference in the mean response of business studies teachers based on their gender and qualification on ICT skills needed by business studies teachers were accepted. Based on the findings of the study, it was recommended that business studies teachers should be trained on the use of Information and Communication Technology skills so that teaching with ICT facilities will be their task.*

**Keywords:** information and communication technology, ict, internet, data processing, skills, business studies

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## INTRODUCTION

The role and importance of Information and Communication Technology (ICT) to national development and sustainability toward education sector cannot be overemphasized especially in

this present dispensation when the world is experiencing dynamic changes. The role of information and communication Technology in teaching and learning is gradually and rapidly becoming one of the most important and widely discussed issues in contemporary education Policy (Rosen and Well, 2015; Thierer, 2020). The importance of ICT facilities has gingered a new and strong desire to equip schools with computer facilities and qualified personnel (instructors) necessary to produce technologically proficient and efficient students in developing countries like Nigeria.

There is no doubt that computer and its facilities can aid the instructional processes and facilitate students learning. Aduwa and Iyamu (2015) opined that for the rapidly changing world global market competition, automation and increasing democratization, basic education is necessary for an individual to have the capacity to access and apply information. They maintained that such ability and capacity must find bearing in Information and Communication Technology (ICT) in the global village. According to Aduwa and Iyamu (2015), the economic commission for Africa has indicated that the ability to access and efficiently utilize information is no longer a luxury but necessary for development. Ohiwere (2014) stated that Information and Communication Technology is indispensable in the teaching and learning of business studies in secondary schools. Therefore, it is possible that teachers have the skills and competencies in handling Information and Communication Technology.

The society as a whole depends heavily on Information and Communication Technology to enable them function on daily basis. Information and Communication Technology as defined by Allan and James (2019) is a study, design, development, implementation, support or management of computer hardware. It deals with the use of electronic computers and computer software to convert, store, and process, transmit, and securely retrieve information. Ohiwere (2014) noted that information has encompassed many aspects of computing and technology and the term has become very recognizable. Professionals perform a variety of duties that range from installing applications of designing complex, computer networks and information database. Okoro, Ilpotokin and Ekong (2022) affirmed that ICT is a variety of means which enable the capture or creation, storage or distribution of data, information and knowledge.

Through ICT, business studies teachers and business educators can collect data, which represent raw facts, numbers and figures. The knowledge gained is the ability to make best use of the information to the growth of business education and its branches. Adebayo and Adesope (2017) are of the opinion that ICT is a scientific technological and engineering discipline and the management technologies used in handling of information, processing and application related to computers. It is concerned with the interactions with man and machines, and associated socio-economic and cultural matters (United National Educational Scientific and Cultural Organization in Osuagwu, 2021).

Information and Communication Technology according to Marshal in Madu and Adeniran (2020), is the coming together of computing and telecommunication Technology is used to describe the tools and processes to access, retrieve, store, organize, manipulate, produce, present and exchange

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information by electronic and other automated means. These include hardware, software and telecommunications in the forms of personal computers, scanners, digital cameras, handhelds/PDAs, phones, faxes, modems, compact disks and digital video disks player and recorders, digitalized video, radio and television and programmes like database systems, and multimedia applications. Information and Communication Technological devices like the Internet are part of the computer and multimedia tools that have revolutionized the business class in this present time. By using the Internet, a teacher and student can get any kind of information and send information from one person to another.

Therefore, it is very necessary that teachers of business studies at any level in the Nigerian school should possess the information and communication technology skills so that the assessment of students' curricular activities will be easier and faster for both the students and the teachers. The constant challenges faced by the Nigerian educational system due to recent economic and technological development are matters that call for urgent consideration. These challenges will be tackled if teachers of business studies possess Information and Communication Technology (ICT) skills and knowledge. Teachers of business studies must be given a second, better and detailed preparation with relevant and up to date knowledge, skills, attitude, competencies, training and right orientation for high level performance in their teaching job (Ibelebu, 2023). Teachers Registration Council of Nigeria, (2015) opined that if the teacher is the key person in achieving qualitative education, we expect that the circumstance of the teachers must be improved through training. To detail the importance of ICT in the education system particularly in Nigeria, Daniel in Ibelebu (2023) stated that the use of ICT in the educative process has been divided into two broad categories. They are: Information and Communication Technology for education and Information and Communication Technology in Education.

ICT for education refers to development of ICT specifically for teaching and learning purposes while ICT in Education involves the adoption of general components of ICT in the teaching and learning process. Effong (2015) emphasized that information and communication technology usage in a school's curriculum depends highly on the teachers who will use the information and communication technology to teach the students. This requires that teachers should be able to incorporate Information and Communication Technology in teaching. Information and Communication Technology is viewed as an innovation that enables business studies teachers facilitate teaching and learning of business studies. Akudolu and Lamuren (2021) in their views pointed out that the evidence of Information and Communication Technology is having positive impact on education (and training in schools).

However, this depends a lot on the level of Information and Communication Technology that is being used in educational institutions and by learners, outside educational setting. In general, learners promote changes and foster the development on 21<sup>st</sup> century skills. In order to understand the impact of Information and Communication Technology in teaching and learning, a holistic approach is needed that takes into account the socio-economic context, the learning environment and the learners. Furthermore, it includes looking at the future learning needs, changing skills and

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competencies necessary for employment, self-development and participation in a knowledge based digital society. In the first few decades, Information and Communication Technologies have provided society a vast array of new communication capabilities. For example, people can communicate with others in different countries using technologies like instant messaging, voice over IP (VOIP) and video conferencing, social networking, e-learning from all over the world to remain in contact and communicate on a regular basis.

Skills is a well-established habit of doing things by people (Uga, 2016). Skill is the outcome of a long practice of an action aimed at improving the workers' competence. Okorie (2019) is of the opinion that skills are acquired when procedures, instruction and facilities are matched with performance activities. For a skill to be acquired, the learner should be exposed to the relevant activities embodying the skills to be acquired (Nwachukwu, 2014). ICT skills are those skills related to the use of computer and other technologies such as the ability to transmit stored information through fixed line networks or through wireless phone networks (Attwell, 2015). In a rapidly changing world, Information and Communication Technology skills are essential for teachers of business studies to enable them to access and apply information.

Haywood (2023) stated that for teachers and students to be successful in their academic pursuit, they must acquire various ICT skills. Some of these skills are ability to identify the various ICT technologies and their uses, ability to use a computer to perform various tasks such as opening applications, creating and modifying documents, spreadsheets or presentations. Other skills that business studies teachers should possess and practice is Internet skills, data processing skills, amongst others. The ability of the business studies teacher to identify the desired information depends on the knowledge and understanding of the use of ICT facilities such as the computer, Internet and email. Tyler (2015) noted that in the world of education, virtually every aspect of it has been influenced by technology. Teachers and students are conducting research through the web, many are using word and data processing packages, spreadsheets, graph plotters and multimedia tools on a regular basis. If teachers are to flourish in the modern high technological world, they must have information seeking and technology skills. In order to utilize the growing range of electronic resources, business studies teachers must possess and practice the skills necessary to exploit them.

The Federal Government Affirmed that teachers' education shall continue to be given major emphasis in all educational planning and development since no education system may rise above the quality of its teachers, (FRN, 2013). This implies that the teacher needs much training to acquire Information and Communication Technology skills so that all contents of the curriculum shall be achieved according to how it was designed by Nigerian Education Research and Development Council.

Many factors have been indicated as being responsible for business studies teachers lack of ICT skills. Gender, location or educational zone and educational qualification are part of those factors. Gender refers to the roles and responsibilities of men and women that are created in our families,

our societies and our cultures. Acholonu (2023) sees gender as socio-cultural identities as a male or female. Gender condition person's general view and conception of a woman's or man's place, status, role or value in the society. From the view point of Acholonu, it is gender that places a male or female where he or she is or to be. That a person is either a male or female does not make him or her better academically because it is only the brain and the determination of the person that will determine his or her achievement and not necessarily the gender. In acquiring skills both male and female teachers of business studies should endeavour to use Information and Communication Technology skills in teaching business studies in secondary schools.

Teacher's qualification plays significant roles in students' academic performance. Teachers with good qualification are more effective in teaching than those with less qualification. (Bankole 2019). A certified teacher is one who graduated from accredited teacher education programme. Some are required to complete an induction programme or to obtain a license. A study by Adeogun (2021) revealed that the quality of any education system depends on the quality of teachers. There is therefore need to assess the characteristics of the business studies teacher in terms of qualification.

Education zone in this study refers to the geographical location of the boarding secondary schools. There are three education zones in Ebonyi State. There are North, Central and South. These three educations are equally equipped with ICT facilities. Also, these educational zones have competent business studies teachers. In respect to the importance of Information and Communication Technology (ICT), teachers as facilitators of learning have the potentials to influence learners in this information age. In this information age, where communication is easily done through the use of computer and computer gadgets, the ability to use information and technological tools to assimilate new information will to a large extent determine how successful and effective a person will be. In view of this age, changes must be made in education to ensure that all students are prepared to face the challenges of a redefined work.

Teacher education institution must be prepared to meet the challenges of this information age. Therefore, teachers of business studies need Information and Communication Technology skills in order to impart such knowledge to learners and help them to meet up with the information age curriculum. Basically, teachers of business studies need skills such as Microsoft word processing, Microsoft excel, multimedia projector, data processing, use of Internet, PowerPoint skills, spreadsheet skills, Peachtree sub-skills, telecommunication skills among others which should be acquired to enhance teaching of business studies in boarding secondary schools in Ebonyi State.

### **Statement of the Problem**

The use of information and communication Technology (ICT) in our society today has become paramount to a level that almost all sectors make use of them. The situation where information and communication technology is being used in Nigeria today by students and teachers in writing external examinations, demands that students and teachers are ICT compliant. The setback is that many ICT users have little or no knowledge and skill about the use of computer and internet to

answer questions in any written exams. These boarding schools that have the gadgets do not have teachers who possess the skills to make use of them in the teaching process. These days, secondary school students are forced to access their results through the use of Information and Communication Technology. It is quite unfortunate that teachers of these students have no skills in the uploading of students' results into the Internet. Furthermore, as we know that subject ICT was newly introduced into the curriculum by NERDC, (FRN, 2014). As it is, teachers of business studies are not trained on how to use information and communication technological gadgets, this suggest that there is need for retraining to help embrace the technological changes taking place in workplaces where the students will find themselves after graduation. The teachers that are to give the required education need to update their knowledge in the face of modern technology and trends (Ibelegbu, 2023). On these backgrounds, the researcher sought to determine Information and Communication Technology skills needed by business studies teachers in Boarding Secondary Schools in Ebonyi State. The choice of boarding school is because in the year 2008, the State government completed and equipped 27 pilot school including 3 technical colleges. Therefore, boarding schools are more equipped with ICT devices than non boarding schools.

### **Purpose of the Study**

The main purpose of this study was to determine the Internet and data processing skills needed by teachers of business studies in boarding secondary schools in Ebonyi State. Specifically, the study sought to determine ICT skills needed by business studies teachers in:

1. The use of internet skills needed by teachers of business studies in boarding secondary schools in Ebonyi State
2. Data processing skills needed by teachers of business studies in boarding secondary schools in Ebonyi State

### **Research Questions**

The following research questions guided the study

1. To what level are ICT skills needed by business studies teachers in the use of the Internet?
2. To what level are ICT skills needed by business studies teachers in data processing?

### **Hypotheses**

The following null hypotheses tested at 0.05 level of significance were formulated to guide the study.

**HO<sub>1</sub>:** There is no significant difference in the mean response of male and female business studies teachers on Information and Communication Technology skills needed by business studies teachers in boarding schools in Ebonyi State.

**HO<sub>2</sub>:** There is no significant difference in the mean response of the business studies teachers according their educational qualification on Information and Communication Technology skills needed by business studies teachers in boarding schools in Ebonyi State.

## METHODS

The study adopted a descriptive survey design. The study was carried out in Ebonyi State in South-Eastern part of Nigeria, created in 1996. The study only focused on boarding secondary schools in Ebonyi State. The population of the study comprised all the 157 business studies teachers in the 31 boarding secondary schools in Ebonyi State. There was no sampling because the population was relatively small. The instrument for data collection was structured questionnaire developed by the researcher on the ICT skills. The ICT skills questionnaire was face validated by five (5) experts from Ebonyi State University, 3 from business education and two from measurement and Evaluation. The reliability of the questionnaire was determined using Cronbach Alpha reliability procedure. The entire questionnaire instrument yielded an alpha 0.84, each of the clusters of the instrument yielded reliability indices of 0.68, 0.71, 0.77 and 0.66 respectively. All these shows that the instrument was reliable for the study. Four research assistants were hired and instructed to distribute the questionnaire to the respondents. The copies of questionnaire was retrieved from the respondents by the research assistants and forwarded to the researcher for data analysis. Data was analyzed using mean and standard deviation for the research questions while the hypotheses were tested at 0.05 level of significance using t-test and analysis of Variance (ANOVA).

## RESULTS

**Research Question One:** To what level are ICT skills needed by business studies teachers in the Internet?

Data collected to answer this question is presented in the Table 1 below.

**Table 1: Mean and Standard Deviation on the Internet Skills Needed by Business Studies Teachers**

S/N	Items	N	Mean	SD	Decision
1	Connect to the Internet through a modem	152	4.34	0.66	VHN
2	Access the Internet	152	4.55	0.58	VHN
3	Access different websites	152	4.34	0.70	VHN
4	Use search engines to track information	152	4.59	0.58	VHN
5	Download information/file from the web	152	4.56	0.55	VHN
6	Upload information/file to the web	152	4.36	0.78	VHN
7	Use smart phones to surf the web	152	4.36	0.73	VHN
8	Create email account	152	4.13	0.79	VHN
9	Use email effectively	152	4.24	0.74	HN
10	Attach files to email account	152	4.01	0.97	HN
11	Use facsimiles	152	3.72	1.12	HN
12	Transfer protocol	152	3.82	1.01	HN
13	Use social networks effectively	152	4.22	0.81	VHN
14	Link two or more computing devices for sharing purposes	152	4.15	0.79	VHN
	<b>Cluster Mean</b>				

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From the results of the analysis presented in Table 1, as indicated by items 1 to 14, it can be deduced that business studies teachers needed items 1, 2, 3, 4, 5, 6, 7, 8, 9, 13 and 14 at a very high level while items 10, 11 and 12 are also needed by the business studies teachers but not like other items in the same category.

**Research Question Two:** To what level are ICT skills needed by business studies teachers in Data processing?

Data collected to answer this question is presented in the Table 4 below.

**Table 2: Mean and Standard Deviation on the Data Processing Skills Needed by Business Studies Teachers**

S/N	Items	N	Mean	SD	Decision
15	Classify data into groups	152	4.29	0.79	VHN
16	Sort data into sequence	152	4.25	0.85	VHN
17	Enter and edit data	152	4.35	0.88	VHN
18	Ability to create table	152	4.18	0.86	VHN
19	Ability to collate data	152	4.12	0.85	VHN
20	Ability to use statistical notation	152	4.03	0.82	HN
21	Ability to use the spreadsheet	152	4.11	0.81	VHN
22	Ability to print out result	152	4.49	0.69	VHN

The results of the data analyzed in Table 2 indicates that business studies teachers are very highly in need of items of 15, 16, 17, 18, 19, 21 and 22 while they are in high need of item 20.

### Test of Hypotheses

**HO<sub>1</sub>:** There is no significant difference in the mean response of male and female business studies teachers on Information and Communication Technology skills needed by business studies teachers in boarding schools in Ebonyi State

Data collected on Information and Communication Technology skills needed were separated across gender and subjected to a t-test of difference between means of independent samples.

Summary of the data analysis is presented on Table 3.

**Table 3: t-test Results of Male and Female Business Studies Teachers on Information And Communication Technology Skills Needed by Business Studies Teachers in Boarding Schools**

Gender	N	Mean	SD	DF	t.cal	t-Criti	Decision	Significance
Male	84	4.46	0.61	150	1.03	1.96	Uphold H <sub>0</sub>	Not Significance
Female	68	4.56	0.50					

The t-test analysis presented in Table 3 shows that there was no significant difference in the mean response of male and female business studies teachers on ICT skills needed by business teachers in boarding secondary schools in Ebonyi State in all the 22 items. This is because, the t-calculated value as shown in Table 3 are less than the t-critical value of 1.96 at Apha level of 0.05 level of significance therefore, the null hypothesis was upheld.

**HO<sub>2</sub>:** There is no significant difference in the mean response of the business studies teachers according their educational qualification on Information and Communication Technology skills needed by business studies teachers in boarding schools in Ebonyi State.

**Table 4: ANOVA Result on Information and Communication Technology Skills Needed by Business Studies Teachers in Boarding Schools Based on Educational Qualifications**

Sources of Variable	DF	Sum of Square	Mean Square	F.cal	F.critic	Decision	Significance
Between Group	2	1.21	0.60			Uphold Ho	Not
Within Group	149	82.27	0.55	1.09	3.00		Significant
Total	151	83.47					

The analysis of variance (ANOVA) presented in table 4 revealed that the responses of the respondents indicated that there is no significant difference in the mean responses of business studies teachers based on their educational zone specifically all the 22 items. Therefore, the null hypothesis that says that there is no significant difference was upheld.

## DISCUSSION

The results of the data analysis presented in Table 1 on the internet skills, indicated that internet skills are very highly needed by business studies teachers in boarding secondary schools in Ebonyi state. The internet skills that are very highly needed include the following: connect internet through a modem, access the internet, access different websites, use search engines to track information, download information/file from the web, upload information, use smart phones to surf the web, create email accounts, use emails effectively, use social network effectively and link two or more computing devices for sharing information while the use of facsimiles, attach files to email account and transform protocol are highly needed. The study findings are in line with Chime cited in Ibelegbu (2023), where he said that internet is one of the major innovations of computer that has found its way deeply into the academic sector, using the internet makes available to the teachers information that cannot be found in any other way except through worldwide web (www). In line with this study, Ibelegbu (2023) revealed that business studies teachers needed internet skills to a very high extent. The study is also in line with the opinion of Okeke (2016) that the success of the internet depends on the skillful choice of word by the user. The business studies teachers requires internet competencies to effectively teach for usefulness in an e-world. Oyedum (2017) stated that the internet provides access to more information than the librarians could ever dream of. Therefore, teachers of business studies should also have their training and retraining in the internet skills so that they can access more information and facilitate their work loads.

The results of the data analysis presented in Table 2 on the on data processing skills revealed that data processing skills are very highly needed by business studies teachers in Ebonyi State. The respondent identified the following data processing skills as the areas are very highly needed,

classify data, ability to use spreadsheet, sort data into sequence, enter and edit data, ability to create table, collate and ability to print result while the ability to use statistical notation is highly needed. The study findings are in line with that of Okoro (2023) which noted that business education graduate that turns out to be business studies teachers in junior secondary schools still requires data processing skills to be effective in teaching business studies. The study is also in line with Ibelegbu (2023) who said that it is very necessary for business studies teachers to process data processing skills. In the same vein, Kogge (2019) said that data processing is used extensively in business and in nearly all area in which computer are used such as education to process data electronically by the teachers. Agomuo (2015) agreed that these days, data processing is increasing in sophistication especially for the business world, therefore business studies teachers should get updated. These opinions are in line with the study findings that data processing skills are very highly needed by business studies teachers. Since data processing is mostly concerned with those activities which are necessary to transform data into information, it therefore becomes imperative that the business studies teacher should acquire these data processing skills listed in Table 2.

### **Educational Implication for the Study**

The study provided useful information on the information and communication technology skills that business teachers in boarding secondary schools in Ebonyi State need to enhance teaching. The finding has interesting implications for teacher

### **CONCLUSION**

The study was carried out to determine the information and communication technology skills needed by teachers of business studies in boarding secondary schools in Ebonyi State, in the course of the study; it identified the ICT skills needed by teachers of business studies. The study found out that multi-media projector skills, Word processing skills, use of internet and data processing skills are crucial for the studies teachers' effective instructional delivery in this technology era.

### **Recommendations**

Based on the findings and conclusion, the following recommendations were made:

1. Business studies teachers should be trained on the use of information and communication technology skills so that teaching with ICT facilities will ease their task.
2. Government should ensure that necessary ICT equipment and facilities are provided to all secondary school owners should ensure that training, workshop, conference and seminars on ICT are organized for business studies teachers.
3. Government and school owners should also ensure that ICT facilitators are well paid so that they will be dedicated in training the teacher (business studies) on ICT skills.

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