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Research Article

A SURVEY OF ICT COMPETENCIES AMONG BUSINESS EDUCATION STUDENTS IN COLLEGES OF EDUCATION IN NIGERIA

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Abstract

The study investigated the perceived ICT competencies among NCE 300 level business education students in Colleges of Education in North-Eastern Nigeria. Descriptive survey design was used in the study. The population of the study consisted of 651 NCE 300 level business education students drawn from seven Colleges of Education offering business education programmes. 242 students were randomly selected as the sample using proportionate sampling technique. Business Education Students Perceived ICT Competencies Inventory (BESP-ICT-CI) was the instrument used in collecting data for the study. The instrument was validated and a reliability of 0.67 was obtained. Data collected were analyzed using mean and t-test statistic. Findings from the study revealed that business education students do not have the required competencies in basic ICT operations as their perceived competency indicated an average (moderate) level. The findings also revealed that there is no significant difference between male and female business education students' perceived ICT competencies as well as that of students from Federal and State Colleges of Education. In view of this, it was recommended that Integration of ICT into the teacher education curriculum by teacher educators is necessary. This will make it possible for business education students to acquire the required competencies during their studies and that befitting ICT/computer centres should be provided where they are lacking in the Colleges. This will give the students the opportunity to put in practice what they have learnt and develop themselves gradually before they graduated from the Colleges.

Keywords: Business Education, Vocational and Technical Education, ICT Competency,

Introduction

Business education is a component of vocational and technical education programme offered at Polytechnics, Colleges of Education and Universities in Nigeria. The Federal Government of Nigeria (NPE, 2004) describes vocational and technical education as that aspect of education that gives its recipients an opportunity to acquire practical skills as well as some basic scientific knowledge.

According to Ibrahim (2008), Business education is an important segment of vocational education. It is wide in scope because it provides the skills and knowledge needed for a particular job such as accounting, marketing and secretarial occupation. He further stressed that business education provides the foundation for many of our accountants, business executives, salesmen, data processing analysts, secretaries, stenographers and typists. However, the overall objectives of business education programme in Nigeria as enshrined in the Minimum Standard for NCE (2008) were to;

- produce well qualified and competent NCE graduates in business subjects who will be able to teach business subjects in our secondary and other related educational institutions.
- produce NCE business teachers who will be able to inculcate the vocational aspects of business education into the society.
- produce NCE business teachers who will be involved in the much desired revolution of vocational development right from the primary and secondary schools.
- equip students with necessary competencies so as to qualify them for post-NCE degree programme in business education.
- equip students with the right skills that will enable them to engage in life of work in the office as well as for self-employment.

Today, one of the areas that teachers' competence is required is ICT. According to Olakulehin (2007), ICT refers to the range of technologies that are applied in the process of collecting, storing, editing, retrieving, and transfer of information in various forms. As such, pre-service teachers need to be familiar with ICT applications and competent in the use of ICT tools before graduation from their respective Colleges of Education. In view of this, Okoro and Okoro (2009) opined that business education that is not based on ICT will be classified as outdated and not in tune with the present realities because education is globalized and many nations agree to standardized their business rules, regulations and practices.

Statement of the Problem

Kadel (2005) argued that regardless of the quantity and quality of technology available in classrooms, the key to how ICT are used is the teacher; therefore, teachers must have the competence and the right attitude towards technology. Thus, business teacher educators are expected to demonstrate specific skills especially in ICT, apply knowledge and possess professional qualities which will enable them to prepare students to compete favourably in the technological age. It is against this background that the Minimum Standard for NCE (Vocational and Technical Education, 2008) stipulates computer courses as part of business education curriculum to be offered by students in Colleges of Education in Nigeria. In view of this, it becomes pertinent to assess the perceived ICT competencies of business education students in the Colleges of Education in the country.

Purpose of the Study

The main purpose of this study is to determine perceived ICT competencies of business education students in Colleges of Education before graduation. Specifically, the objectives of this study are to;

- Describe the demographic profile of the respondents in the sampled Colleges.
- Examine the perceived ICT competencies of business education students in the sampled Colleges.
- Find out whether there are differences in perceived ICT competencies among the students on the basis of gender and College type.

Research Questions

The following research questions guided the study:

- What are the demographic profile of business education students in the sampled Colleges?
- What are the perceived ICT competencies of business education students in the sampled Colleges?
- What is the difference in the mean responses on perceived ICT competencies among business education students on the basis of gender and College type?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance in the study:

Ho_1 There is no significant difference in the mean responses of male and female business education students on perceived ICT competencies.

Ho_2 There is no significant difference in the mean responses on perceived ICT competencies of business education students in Federal and State Colleges of Education.

Methodology

In this study, descriptive survey design was used in investigating the perceived ICT competencies of business education students. A descriptive survey method allows the researcher to study group of sample considered to be representative of the entire population of the study, summarizes their responses and draw inferences.The target population for this study consists of 651 NCE III business education students in 7 Colleges of Education offering business education programmes in the 6 states of North-Eastern Nigeria. A sample size of 242 students was drawn from the population of the study using proportionate sampling technique. The choice of NCE III students is that they have undertaken all the computer courses in the department.

Structured questionnaire was the instrument used to collect data in the study. The instrument: Business Education Students' Perceived ICT Competencies Inventory (BESP-ICT-CI) contained 19 items developed by the researcher using the NCCE Minimum Standard (2008) as a guide. Each of the items is provided with a five points rating scale of Very High Competent (VHC, 5 points), High Competent (HC, 4 points), Moderate Competent (MC, 3 points), Low Competent (LC, 2 points) and Very Low Competent (VLC, 1 point). Three experts from business education department of College of Education, Azare face validated the research instrument. The instrument was pilot tested and a reliability coefficient of 0.67 was obtained using split-half method. Research assistants were used in the administration and retrieval of the instrument in the study area. 224 copies of the instrument were retrieved from the respondents. Mean was used to answer the research questions while t-test was used to test the null hypotheses at 0.05 level of significance.

Results

The results obtained from the analysis of the data collected were presented based on the research questions and hypotheses that guided the study as follows:

Research Question 1

What are the demographic profile of business education students in the sampled Colleges?

Table 1: Demographic Profile of the Respondents

Characteristics	**N**	**%**
Gender		
Males	117	52 %
Females	107	48 %
Area of Specialization		
Accounting Education	153	68%
Secretarial Education	71	32 %
College Type		
Federal Colleges of Education (FCEs)	119	53 %
State Colleges of Education (COEs)	105	47 %

Source: Field Survey, 2015.

The above table depicts demographic profile of the respondents in the sampled Colleges. Male respondents constituted 52% indicating their domination over female respondents in business education programmes in the Colleges. Accounting students respondents representing 68% shows the preference of students towards accounting option than secretarial. Respondents from FCEs representing 53% indicate more population of students there than those in COEs even though the ratio of the Federal to State Colleges of Education in the study area was 3/4.

Research Question 2

What are the perceived ICT competencies of business education students in the sampled Colleges?

Table 2: Mean responses of business education students' on perceived ICT competencies.

S/N	ICT Operations	N	$\bar{X}$	Remark
1.	Connect the various components of a computer	224	4.23	HC
2.	Boot and shut down a computer system succesfully	224	3.99	MC
3.	Knowlegde of keyboard, speed and accuracy while typing	224	3.87	MC
4.	Create, copy, save or delete file or a folder	224	3.81	MC
5.	Minimize, maximize, restore and close an environment	224	3.74	MC
6.	Using simple editing e.g bold, italics, font size, etc	224	3.71	MC
7.	Generate and update records using database	224	3.44	MC
8.	Ability to create and or query existing data	224	3.33	MC
9.	Insert and delete a row or column	224	3.42	MC
10.	Using spreadsheet to prepare sales analysis, Trading, Profit and Loss Account	224	3.56	MC
11.	Open internet explorer and other browsers	224	3.64	MC
12.	Access a known web site address	224	3.71	MC
13.	Ability to use ICT facilities to transact on-line business	224	3.41	MC
14.	Create, check and send a reply to e-mail	224	3.37	MC
15.	Search, download and save a file from the internet	224	3.72	MC
16.	Search advertising strategies, job and or career opportunities through internet	224	3.41	MC
17.	Evaluate number of opportunities for both rntreprenuers and existing businesses available on the World Wide Web	224	3.29	MC
18.	Save into a diskette, flash drive or CD	224	3.51	MC
19.	Using computers to interact within an office or organization	224	3.50	MC

Source: Field Survey, 2015.

KEY**:** N=Total Number of Respondents, X= Mean, HC= High Competent, MC= Moderately Competent The above table revealed that the students perceived themselves to be high competent in the first item with a mean value of 4.22 while the remaining 18 items as moderately competent with a mean value ranging from 3.29 to 3.99.

Research Question 2

What is the difference in the mean responses on perceived ICT competencies among business education students on the basis of gender and College type?

Table 3: Comparison of mean responses of perceived ICT competencies of Male and Female business education students in the sampled Colleges.

S/N	COLLEGE	N_1	$\bar{X}_1$	N_2	$\bar{X}_2$	GX	RMK
1.	COE AZARE	25	3.68	13	3.73	3.71	MC
2.	COE GASHUA	07	3.81	10	4.01	3.91	MC
3.	COE JALINGO	15	3.62	08	3.55	3.59	MC
4.	COE MAIDUGURI	14	3.40	13	3.62	3.51	MC
5.	FCE(T) GOMBE	40	3.57	49	3.67	3.62	MC
6.	FCE(T) POTISKUM	12	3.65	08	3.42	3.54	MC
7.	FCE YOLA	04	3.21	06	3.03	3.12	MC
	OVERALL	**GX**	**3.56**		**3.58**		MC

Source: Field Survey, 2015.

KEY: N_1= Total Number of Male Respondents, N_2=Total Number of Female Respondents

$\bar{X}_1$=Mean response of Male Respondents,$\bar{X}_2$ =Mean response of Female Respondents

GX=Grand Mean, RMK=Remark, MC=Moderate Competent

The above table indicated that both male and female students within the sampled Colleges perceived themselves to be moderate competent on ICT with a Grand Mean ranging from 3.12 to 3.91. The Overall Grand Mean equally indicated the same level of perceived ICT competencies by male and female business education students across the sampled Colleges.

Table 4: Comparison of mean responses of perceived ICT competencies of business education students from Federal and State Colleges of education.

S/N	COLLEGES	N	$\bar{X}$	REMARK
1.	Federal	119	3.57	MC
2.	State	105	3.66	MC

Source: Field Survey, 2015.

KEY:N= Total Number of Respondents, $\bar{X}$=Mean, MC=Moderate Competent Table 4 indicates that business education students from Federal and State Colleges of Education have the same level of perceived ICT competencies.

Hypothesis 1

There is no significant difference in the mean responses on perceived ICT competencies among business education students based on gender.

Table 5: Summary of 2 tailed test analysis of difference between mean responses of male and female business education students' perceived ICT competencies.

Variables	N	$\bar{X}$	SD	Df	t-cal	t-crit	Decision
Males	117	3.59	.550	222	-.526	1.972	Ho Accepted
Females	109	3.64	.674				

Source: Field Survey, 2015.

KEY: N= Total number of respondents

The results of the t-test show that statistically, there is no significant difference between male and female business education students perceived ICT competencies. The t-calculated (tcal) of -.526 is less than the t-critical table value (tcrit) of 1.972 at 0.05 level of significance (2 tailed) and 222 degree of freedom (df). The null hypothesis stated is therefore accepted.

Hypothesis 2

There is no significant difference in the mean responses on perceived ICT competencies among business education students based on College type.

Table 6: Summary of 2 tailed test analysis of difference between mean responses of business education students from Federal and State Colleges of Education on their perceived ICT competencies.

Variables	N	$\bar{X}$	SD	Df	t-cal	t-crit	Decision
FCEs	119	3.57	.626	222	1.040	1.972	Ho Accepted
COEs	105	3.66	.593				

Source: Field Survey, 2015.

KEY: N= Total number of respondents

FCEs=Federal Colleges of Education, COEs=State Colleges of Education

The results of the t-test show that statistically, there is no significant difference between business education students from Federal and State Colleges of Education on their perceived ICT competencies. The t-calculated (tcal) of 1.040 is less than the t-critical table value (tcrit) of 1.972 at 0.05 level of significance (2 tailed) and 222 degree of freedom (df). The null hypothesis stated is therefore accepted.

Discussion

The findings of the study show that business education students do not have the required competencies in basic ICT operations as their perceived competencies showed a moderate level. This supports the findings of Donna, Elisha and Marianne (2009) which reveals that majority of business students perceived at least an average level in basic computer skills.

Test of hypothesis on gender revealed that there is no significant difference in the perceived ICT competencies of male and female business education students. This findings agrees with the findings of Danner and Pessu (2013) which revealed that there is no significant difference between male and female students in their perceived ICT competencies in teacher preparation programmes at the University of Benin, Benin City, Nigeria. However, this finding differs with the findings of Ofeogbu and Asagwa (2013) which reported that female teachers have higher ICT competencies than male teachers among Basic Science and Technology teachers in Enugu state.Statistically there is no significant difference in the perceived ICT competencies of business education students from Federal and State Colleges of Education. This could be attributed to the fact that the same curriculum guides the operation of business education programmes in the Colleges of Education in the country.

Conclusion

The findings of the study show that business education students do not have the required competencies in basic ICT operations as their perceived competency indicated an average (moderate) level. Considering the potentials of ICT, it is clear that unless the issue of ICT competency among pre-service teachers is addressed, it could be a barrier to business education students' ability to be relevant and compete favourably in the global market.

Recommendations

Based on the findings from the study, the following recommendations are made:

- Integration of ICT into the teacher education curriculum by teacher educators is necessary. This will make it possible for business education students to acquire the required competencies during their studies.
- Professionally trained ICT personnel should as a matter of fact be assigned ICT/Computer courses to handle in business education departments. A situation whereby lecturers were assigned to handle ICT/Computer courses regardless of their specialization should be discouraged.
- Befitting ICT centres should be provided where they are lacking in the Colleges. This will give the students the opportunity to put in practice what they have learnt and develop themselves gradually before they graduated from the Colleges.
- Management of the Colleges should collaborate with ICT firms for the purpose of benefiting from the supply of ICT facilities as well as workshops and seminars on ICT to the academic staff.

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