OFFICE TECHNOLOGY AND MANAGEMENT EDUCATORS' SELF-APPRAISAL ON INFORMATION AND COMMUNICATION TECHNOLOGY COMPETENCIES

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Abstract

The study was designed to find out the areas of strengths and weaknesses of polytechnic OTM educators in south-south geo-political zone of Nigeria with respect to ICT competencies. The study adopted the descriptive survey design. Three research questions were drawn while one null hypothesis was tested at 0.05 level of significance. The entire population of the 82 OTM educators in the six polytechnics was used for the study. Data were collected for the study through the administration of validated questionnaire on the respondents. The split-half method was used to determine the reliability of the instrument. The mean statistics and standard deviations were used to answer the research questions while t-test statistic was used to test the hypothesis. The findings of the study revealed that polytechnic OTM educators in south-south geo-political zone of Nigeria considered themselves competent in data processing and desktop publishing. However, they considered themselves fairly competent in webpage design. The conclusions were drawn and relevant recommendations were made towards improving OTM educators' level of competence in ICT which include establishment of ICT training centres in polytechnics in the south-south states and reviewing of university business education curriculum in line with the ICT innovations in OTM programme.

Keywords: *Information and communication technology, Office technology and management, competencies.*

1. Introduction

Information and Communication Technology (ICT) has become a household term globally and has brought radical changes in the way people live, learn and work. It has become a very powerful tool in education and training by linking students to global information and inducing innovations for lecturers. The information and communication technologies are potentially powerful enabling tools for educational advancement and reform. When used appropriately, different ICTs help expand access to education, strengthen the relevance of education to the increasingly digital workplace and raise educational quality by helping to make teaching and learning into an engaging active process to real life. Therefore, the need for individuals of different ages, levels, and vocation to possess competencies and skills in ICT for success in whatever endeavour and can never be overemphasized (Ezenwafor, 2012).

Office Technology and Management was introduced into Nigerian polytechnics in 2004 after the review of Secretarial Administration curriculum by National Board for Technical Education (NBTE). The review was undertaken with the view to producing graduates who could be efficient in the management roles and have the confidence and practical skills necessary to cope with the dynamic challenges of modern business office. The curriculum now have been described as having apparent advantages because of UNESCO assistance during the review which introduced international perspectives to the curricula and enabled them to benefit from some of the best practices around the world (Ohakwe &Njoku, 2009). Unarguably, there is convergence of computer, telecommunication, the internet and information and communication competencies that are lacking in the various curricula for producing office workers in Nigeria. Nwabuona (2010) describes the OTM programme as focusing on combination of office information and technical skills with adequate and relevant business knowledge in solving organizational problem. The target is to produce a hybrid administrative of professionals who can respond to the demand of a dynamic and intensely computerized workplace.

This implies that to be able to teach the various courses in OTM curriculum especially the ICT courses and effectively implement the 75% practical exercises on them as stipulated in [4], polytechnic OTM lecturers must be familiar with and be competent in the use of ICT. This is because nobody can effectively impart to others what he/she is not competent at. Competency here means the skill, knowledge and ability to perform a task well. According to Ekpenyong (2006), competency involves incremental appropriation of cognitive skills and personal attitudes needed to respond appropriately to a variety of familiar and unfamiliar or unexpected professional or career circumstance. Therefore competence in ICT is a requirement for OTM lecturers to implement the OTM curriculum.

These competencies may be grouped in clusters of: Data processing, Desktop Publishing, web page design competencies, among others. Each of these areas of competence consists of a body of knowledge, skills and abilities which the teacher must possess in order to equip the students with them during training. For instance, to teach word processing, the teacher should, among other things be able to: load application software e.g. MS Word, and explain its environment and basic functions; create files and folder; use an input devices to enter and

edit text accurately; manipulate information (opening, copying, cutting, pasting, saving and deleting files); preview, print and save a document and so on. Spreadsheet on the other hand, allows them to analyze and organize data into list and tables.

Similarly, desktop publishing is a skill that can be used for the creation of documents using page layout software on a personal computer. It is the process of using computer and specific types of software to combine text and graphics to produce documents such as newsletters, brochures, posters, books and so on (Azuka, 2012). It has made a substantial revolution in the quality and ease of publications by saving the resources needed to produce a document, and reduce the turnaround time in traditional publishing process. Okoro and Okoro (2009) assert that desktop publishing skills include; ability to open a desktop publishing environment, ability to identify and use documents; produce a simple publication; set up page size/orientation and margins of a flier; create quality and attractive text area/text frame; and so on.

Webpage design is also included in the OTM programme. In this age where information transmission travels at the speed of light, the inclusion of internet/web page design in the OTM curriculum is not a surprise. Students should have a full command of a web design software application to improve business online performance and utilize the internet (online resources) for business and commercial purposes.

It should be noted that, the extent to which OTM educators possess these ICT competencies will determine whether the objectives of OTM programme will be achieved or not. Therefore, there is need to find out how competent OTM educators are in the ICT contents in the curriculum.

The new OTM curriculum is well packaged with a number of ICT courses which have been commended as capable of providing graduates with effective competencies to deal with the requirement of ICT-driven world of work. Impressive as the objectives may seem on paper, no provision was made for any kind of formal academic retraining programme for OTM lecturers. This is why Maduabuchi (2008) has lamented that no institutional staff development programmes have been organized for OTM lecturers. When consideration is given to this adverse situation one would be left with the option of asking some fundamental questions such as: what level of ICT competence do polytechnic OTM lecturers possess? Do they have the practical experience to guide students in ICT-driven classroom? Put differently, the researcher is interested in knowing the extent to which the caliber of OTM educators in polytechnics in south-south Nigeria can implement the OTM curriculum and achieve the mission of the programme without some kinds of regular professional training or retraining to update their knowledge and skills in ICT? These concerns constitute the worry of this study.

Therefore, the main purpose of this study is to find out areas of strengths and weaknesses of polytechnic OTM lecturers with respect to ICT competencies. Specifically, the study was designed to determine the opinion of polytechnic OTM lecturers regarding their level competence in the following areas:

1 Data processing competencies
2 Desktop publishing competencies
3 Web page design competencies

The following research questions guided the study:

1 How competent do polytechnic OTM educators in polytechnics in South-south Nigeria rate themselves in data processing?
2 How competent do polytechnic OTM educators in South-south Nigeria rate themselves in desktop publishing competencies?
3 How competent do polytechnic OTM educators in South-south Nigeria rate themselves in web page design?

One null hypothesis was tested at 0.05 level of significance which states thus: Polytechnic OTM educators do not differ significantly on the mean rating of their level of competence in information and communication technology as a result of educational qualification.

2. Methods

This study utilized descriptive survey to find out the areas of strength and weakness of polytechnic OTM lecturers in South-south Nigeria. The researcher chooses this method because the views, opinions and responses of OTM lecturers in polytechnics were sought in this study.

The population of the study comprised all academic staff (lecturers, instructors and technologist) in OTM Departments in the six polytechnics in the area of study. The distribution of population of OTM educators in polytechnics in south-south Nigeria are: Auchi Polytechnic, Auchi (26), Delta State Polytechnic, Ogwashi-Uku (16), Delta State Polytechnic, Ozoro (17), Rivers State Polytechnic, Bori (16), Edo State Polytechnic, Usen, (9) and Akwa Ibom State Polytechnic, Itok (14). As a result of limited size of the population, all the educators in OTM Departments across the polytechnics in south-south states were involved in this study. Hence, there was no sampling of the population.

The instrument that was used to elicit data for this study is a structured research questionnaire titled: ICT Competency Questionnaire which was developed by the researcher. It consists of two parts. Part A focused on respondents' personal and demographic data. Part B is made up of four sections and has a total of one hundred and fifteen items together. The 5- point Likert type rating scale was used to enable the respondents to score their level of competence on each item. The respondents were required to assess themselves, by checking on the appropriate columns, the one that best describes how competent they were in the following computer operations using the five rating scale as:

Response	Options	Rating	Boundary Limits
Very competent	(VC)	5	4.50 – 5.00
Competent	(C)	4	3.50 – 4.49
Undecided	(U)	3	2.50 – 3.49
Fairly competent	(FC)	2	1.50 – 2.49
Not competent	(NC)	1	0.50 – 1.49

The research instrument was validated by two experts in Business Education and one in Measurement and Evaluation while its reliability was determined by the use of split half method. Data collected was analyzed using Spearman Rank Order Correlation Formula and correlation coefficient of 0.69 was obtained. The research instrument was administered by the researcher with the aid of research assistants and retrieval was done through the same method. Out of a total of 88 copies of the questionnaire distributed, 82 copies were returned which represents 93 percent. Simple mean and standard deviations were used to analyze the responses from the collected data while the t-test statistical tool was used to test the null hypothesis formulated for the study.

Decision Rule: Any item with a mean rating that is equal to or greater than 3.5 was considered competent while any item with a mean rating that is less than 3.5 was considered fairly competent.

3. Results and Discussion

Research Question 1: *How competent do polytechnic OTM educators rate themselves in data processing?*

Table 1: Respondents' mean rating on data processing competencies

S/N	Data Processing Competencies	Mean	SD	Remark
1	Loading a data processing application e.g. MS Word and MS Excel etc.	4.66	1.50	Competent
2	Creating computer files and folders	4.60	1.06	Competent
3	Using input devices to enter and edit text	4.48	1.22	Competent
4	Creating back-ups of important files	4.39	1.05	Competent
5	Creating formula in worksheet	3.89	1.45	Competent
6	Copying cutting & pasting text	3.92	1.10	Competent
7	Inserting pictures & symbols	3.50	1.38	Competent
8	Changing text font and size	4.34	0.89	Competent
9	Creating a table in a Word and Excel	3.80	1.38	Competent
10	Saving work in document and worksheet	4.10	1.00	Competent
	Grand Mean	**4.87**	**1.55**	**Competent**

The data in Table 1 indicates how competent polytechnic OTM lecturers rated themselves in data processing. It is obvious that polytechnic OTM lecturers in south-south states considered themselves competent in word processing as indicated in Table 1. All the items have mean ratings above 3.5 which indicate competence in word processing.

Research Question 2: *How competent do polytechnic OTM educators rate themselves in the use of desktop publishing application?*

Table 2: Respondents' mean rating on desktop publishing competencies

S/N	Spreadsheet Competencies	Mean	SD	Remark
11	Opening a desktop publ. application	4.77	0.87	Competent
12	Accessing a design template	4.34	1.25	Competent
13	Editing title of a flier	3.40	1.40	Fairly Competent
14	Applying alignment and justification	3.29	1.22	Fairly Competent
15	Resizing or moving images in a flier	3.51	0.88	Competent
16	Applying fonts and sizes in a flier	4.04	1.30	Competent
17	Applying font & size to brochure	4.10	1.20	Competent
18	Creating a three columns newsletter	3.56	1.59	Competent
19	Changing the design of a newsletter	3.00	1.27	Competent
20	Printing a newsletter	3.95	1.10	Competent
	Grand Mean	**3.69**	**1.21**	**Competent**

The data in Table 2 indicated how competent polytechnic OTM lecturers in south-south states rate themselves in desktop publishing application. The result revealed that polytechnic OTM lecturers were competent in eight out of ten competency items on desktop publishing application but considered themselves fairly competent in the remaining two items. In the nutshell, the data indicate that respondents considered themselves competent in desktop publishing application.

Research Question 3: *How competent do polytechnic OTM educators rate themselves in web page design?*

Table 3: Respondents' mean rating on web page design competencies

S/N	Web Page Design Competencies	Mean	SD	Remark
21	Assessing software application	4.10	1.54	Competent
22	Typing a HTML code	2.69	1.25	Fairly Competent
23	Ability to create a hyperlink	2.34	1.30	Fairly Competent
24	Formatting a table in HTML	3.44	1.10	Fairly Competent
25	Publishing a webpage on the internet	2.54	1.38	Fairly Competent
26	Sending & receiving email	3.85	1.40	Competent
27	Refreshing a web page	3.56	1.45	Competent
28	Applying color to a HTML element	2.72	1.39	Fairly Competent
29	Using shared devices in a network	3.10	1.15	Fairly Competent
30	Printing web page document	3.47	0.90	Fairly Competent
	Grand Mean	**3.02**	**1.25**	**Fairly Competent**

The data in Table 3 shows how competent polytechnic OTM educators rate themselves in web page design. Out of ten items on web page design, only three of them have mean ratings greater than 3.5. They include items 21, 26 and 27 having mean values of 4.10, 3.85 and 3.56 respectively. The remaining seven items have mean ratings lower than 3.5. However, the standard deviations of their responses ranged from 0.90 to 1.54 which indicates that the respondents were far apart in their responses.

Hypothesis**:** *Polytechnic OTM lecturers do not differ significantly on the mean rating of their level of competence in web page design as a result of educational qualification.*

Table 4: The t-test analysis of the difference between the mean ratings of polytechnic OTM educators on their level of competence in ICT as a result of qualification

Qualification	N	X	S	t-cal	α	df	t-crit	Remark
Lecturers with Teaching Qualification	44	4.07	1.38	3.05	0.05	80	1.96	Rejected
Lecturers without Teaching Qualification	38	2.33	1.60					

As shown in Table 4, the t-calculated value is 3.05 which is greater than the t-critical value of 1.96 at 80 degree of freedom and 0.05 level of significance. The null hypothesis is therefore

rejected meaning that there is significant difference between OTM educators with teaching qualification and their counterparts without teaching qualification on the level of competence in ICT.

3.2 Discussion

The discussion is based on the three research questions and the one hypothesis.
The result of the analysis of Research Question 1 revealed that polytechnic OTM educators in south-south states are competent in electronic data processing application. All the 10 items on data processing competencies received mean scores of 3.5 and above. NNaji (2010) posits that technological innovations have considerably altered the nature, content and environment of business and since business educator is the main purveyor of business of instruction, should have the requisite skills and techniques of teaching office technology to its recipients.

The findings of the study also revealed that, OTM lecturers in polytechnics in south-south states were competent in desktop application (X=3.69). Oduma (2010) pointed out that people who like work activities that deal with the artistic side of things, who understand design concepts and who like practical, hands-on problems and solutions will like desktop publishing work.

Polytechnic OTM lecturers in south-south states also considered themselves fairly competent in web page design with a grand mean of 3.02. Ohakwe and Njoku (2009) argued that the present crop of lecturers in OTM cannot effectively implement the content of the new curriculum without engaging in mass training and retraining because the curriculum used in training this caliber of staff never contained courses in webpage design. This revealed the extent of urgency of retraining needs of OTM educators because the success of any curriculum is a direct function of teacher level of competence. Aguokogbuo (2000) pointed out that no matter the appropriateness of any learning experiences selected, it is the teachers in the final analysis, determine the corresponding learning outcomes.

4. Conclusions

Based on the finding of the study, it has been concluded that OTM lecturers in polytechnics in south-south states of Nigeria are competent in some aspects of information and communication technology particularly in the areas of data processing and desktop publishing application. However, they are fairly competent in webpage design application. Therefore, from the findings of this study, it could be concluded that the level of competence possessed by OTM educators is generally above average.

Based on the findings of this study, the following recommendations are made which could be beneficial to OTM students, OTM lecturers, polytechnic academic boards and university business education curriculum planners:

1. OTM educators in polytechnics in south-south states should see the need to update their knowledge and skill in their job especially on the area of web page design to keep them professionally relevant and up to date.

2. Academic Boards in various polytechnics should as a matter of responsibility mobilize the OTM educators in their institutions for skill development and update in ICT especially in the area of webpage design.
3. Polytechnics in south-south states should establish ICT training centres in their institutions where staff and students can develop and update their skills on ICT as obtainable now in some universities in Nigeria.
4. University business education curriculum planners should ensure that adequate ICT content are included in their curriculum so that their graduates can easily cope with the current demands in office technology and management programme.

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