OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION STUDENTS' SELF-EVALUATION OF ACQUIRED WORD PROCESSING AND DATABASE MANAGEMENT COMPETENCIES IN DELTA STATE

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Abstract

The need for an enhanced word processing and database management competencies acquisition by Office Technology and Management Education (OTME) students for success in employment, necessitated this study. Two research questions guided the study and two null hypotheses were tested. Descriptive survey research design was adopted for the study. The population consisted of 98, 2016/2017 session final year OTME students in all colleges of education in Delta State. The entire population was studied without sampling as the size was small. A five-point rating scale questionnaire containing 26 items was used for collecting data for the study. The instrument was validated by three experts in the faculty of education, Nnamdi Azikiwe University, Awka. The reliability of the instrument was established by administering it to 10 respondents from College of Education, Ekiadolor in Edo State. Using Cronbach Alpha method, a reliability coefficient of 0.87 was obtained. Mean and standard deviation were used to answer research questions and determine the closeness of respondents' views. While t-test was used to test the null hypotheses at 0.05level of significance. Findings revealed that the students rated themselves to have acquired word processing and database management competencies at moderate level and gender did not significantly influence their ratings. Based on the findings, it was concluded that more efforts were needed by the students, their lecturers and the institution managements to ensure that students adequately acquire relevant competencies in the two applications for them to be effective in carrying out their professional responsibilities on graduation. It was, therefore, recommended among others that OTME students should use computers instead of typewriters right from their first year and that institutions managements should provide adequate number of functional computers for use by the students.

Keywords: Office Technology and Management, Self-evaluation, Acquired, Word processing, Database Management, Competencies

Introduction

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Colleges of education have the mandate to produce competent graduates who would teach in primary and junior secondary schools or work in other sectors of the economy. It is a post-secondary education which awards Nigeria Certificate in Education (NCE) and degrees if affiliated to universities (Olise, 2013). The Federal Republic of Nigeria (FRN) (2013) posited that a college of education is an institution that provides knowledge, skills and training to students for the production of teachers and skilled personnel who shall be enterprising and self-reliant. College of education therefore, is a tertiary institution with the mandate to implement the NCE programme for the preparation and graduation of knowledgeable and skilled manpower who are awarded the Nigeria Certificate in Education.

Business education at the college of education level is designed to produce well qualified and competent Nigeria Certificate in Education (NCE) graduates who will be able to teach business subjects in Nigeria secondary schools and other related educational institutions; produce NCE business teachers who will be able to inculcate the vocational aspects of business education into the society and to equip graduates with the right skills that will enable them to enter and progress in the world of work (NCCE, 2012). Federal and state colleges of education in Delta State offer business education programme with options in accounting education and secretarial education (herein referred to as Office Technology and Management Education (OTME) and the lecturers are called business educators.

The introduction of information and communication technology (ICT) in the curriculum of business education demands that teachers should be adequately skilled in technology and can effectively teach the relevant subject matter contents using ICT resources. ICT and its resources are highly used in office technology and management education programme to enable students acquire competencies in office applications needed to succeed in chosen careers in this digital age. Office applications are computer programmes designed to help people perform diverse activities. As noted by Garba (2012), computer application software is referred to as office application packages or simply office applications by the producers. Some packages focus on single tasks, such as word processing while those called integrated softwares include several applications.

In order to equip students with ICT competencies, the NCE minimum standards provides that OTME students, in their final year, should offer a course titled BES 328: Information Technology and Computer Application with emphasis on word processing using Microsoft word or word star; data processing with Lotus/Excel (spreadsheet) application; desktop publishing, electronics data application systems dealing with batch processing, on-line processing and real-time processing systems among others. The emphasis is that students should be exposed to operating procedures of the computer and other technological devices and it requires that computer usage for teaching and learning should be in the ratio of one computer to

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three students (1:3) and that every one hour of lecture should be followed by two hours of practice.

Before the advent of information technology (IT), a trained secretary was known to be an efficient office worker armed with knowledge of shorthand and typewriting and the typewriter serves as the key work equipment. In recent times, IT introduced a new dimension to the field through computer and other electronic devices that are constantly transforming the profession as reflected by the expectations of OTME students in tertiary institutions by the society. As a result, emphasis has shifted from shorthand and typewriting to computer applications and information technologies. These changes can be seen in the innovation and invention pertaining to equipment, nomenclature, technology, furniture, form designs, environment, responsibilities, training, skills, abilities, attitudes, knowledge, educational institutions and their curricula.

Computer is an electronic machine that operates under the control of instructions stored in its memory to accept data, manipulate the data according to specified rules, produce results and store the results for future use. According to Onyeizugbe and Orogbu (2015), a computer is an electronic device that accepts data from an input device, performs some kind of manipulations on the data in accordance with the defined instructions and transfers the manipulated or processed data to an output device for further processing or final printing.The use of electronic computer in information processing and production holds many advantages over manual typewriters used by secretaries in the past. For instance, given the right software, computer has the capability of processing information with great speed, accuracy, consistency, reliability and ability to handle large amount of data simultaneously within a limited time frame.

The modern office tends to be a challenging place to work for graduates who are inefficient in the use of computer and its resources as professionals in information technology use computer and office applications to input, process, output, store, communicate and manage information. According to Adamu in Adeola (2012), in the contemporary business world, the virtual office which is ICT-driven has replaced the traditional paper and file office. ICT utilization makes schools more efficient and productive thereby engendering a variety of tools to enhance and facilitate teachers' professional activities. The knowledge of computer technology and its resource is an indispensable tool to work with in today's business office and educational enterprise. Bolarinwa (2010) remarked that every aspect of life; from education to work environment is influenced by ICT. The invention of computer brought the greatest revolution in OTME programme as well as the business and work environment of the era. Computers have changed the way people live, work, and communicate and the society depends so much on computers to perform variety of functions.

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It appears that students are major beneficiaries of technology especially for information management. The essence of the use of computers which ought to replace manual typewriters in the implementation of OTME programme is for improvement in word and data processing, storage and retrieval of information. It has also paved way for OTME students to join the trend in the world of information technology. Garba (2012) asserted that the invention of computer brought the greatest revolution in OTM programme formally known as secretarial studies, because it simplified all aspects of the functions thereby relieving the secretary the burden of repetitive tasks. This shows that today's OTME students need to be adequately equipped with relevant computer knowledge and skills of different applications especially word processing and database management to facilitate their transition from school to work.

Word processing software enables one to easily create all kinds of documents, letters, memoranda, mailing lists, greeting cards, labels, newsletter, business reports, business cards, letter heads and table. Computer is the major technological equipment used in teaching and learning of word processing. As stipulated in the NCCE Minimum Standard (2012), OTME students are to be exposed to the use of computer and its applications to input, edit, format, save, store, retrieve and print diverse documents. Students should possess skills to apply features, such as open/close a document, work with multiple windows, use menu and tool bars, minimize and close windows, change page layout and orientation, insert header, footer and page numbering to multiple page document among others. They should have the ability to quickly and correctly copy, cut and paste document, import an image and successfully transfer it to a desired destination. Finally, they need the ability to create and print mailable documents which is of utmost importance. The most popularly used word processing application is Microsoft word.

A database management system (DBMS) is an application used for creating and managing databases. It provides users and programmers a systematic way to create, store, retrieve, update and manage data and makes it possible for end users to create, read, update and delete in a database. DBMS essentially serves as an interface between the database and end users or application programmers, ensuring that data are consistently organized and remain easily accessible. It manages the data, the database engine that allows data to be accessed, locked and modified, and the database schema, which defines the database's logical structure. These three foundational elements help provide concurrency, security, data integrity and uniform administration procedures. The DBMS is perhaps most useful for providing a centralized view of data that can be accessed by multiple users, from multiple locations in a controlled manner. It can limit what data the end user sees as well as how that end user can view the data, providing many views of a single database schema. End-users and software programmers are free from having to understand

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where the data are physically located or the type of storage media the data resides on because the DBMS handles all requests.

Competency means doing or ability to do something in a skilled or expert way as a result of training. Agbatogun (2011) conceptualized competency as the ability to perform basic computer operations and other activities such as maintenance and trouble shooting of equipment, use of word processing, spreadsheet, computer graphics, desktop publishing, database management and networking of computer system. Competencies as used in this study are ability to be proficient, efficient and skillful in the use of office applications such as word processing, spreadsheet, desktop publishing and database management to perform diverse activities. Database management competencies includes ability to create and append records to a database, edit and change existing records, delete old or unwanted records, rearrange records through sorting or indexing, find and locate specific records for specific purposes and also write reports on the contents of the database in details or summary. It is in recognition of the importance of application of the ICT and its resources that Ezenwafor (2012) urged individuals of different ages, levels and vocations to possess competencies and skills in ICT for success in their endeavours.

Students' acquisition of ICT competencies before and on graduation may, to a large extent, determine how easily they will enter and progress in the world of work in this digital age. Unfortunately, Bolarinwa (2011) observed that OTM students will be unemployable on graduation because they lack both the basic and core ICT skills needed to teach and work in modern business offices. This situation sends a dangerous signal and a threat to the students' employment and job security on graduation if not objectively addressed. Therefore, there is need to give students the opportunity to evaluate themselves on their acquired competencies in different office applications especially word processing and database management, so that they could identify their weaknesses and determine to improve in areas they are deficient.

Statement of the Problem

The use of computer and its resources in the training of Office Technology and Management Education (OTME) students is aimed at equipping them with relevant knowledge and competencies for success in their chosen career. This is because every aspect of life, education and work environment is influenced by Information and Communication Technology (ICT). It is, therefore, expected that graduates of OTME would possess high level of office application competencies and apply them effectively in employment as teachers, office workers or as entrepreneurs. Unfortunately, Yusuf (2009), Agbatogun (2011), Bolarinwa (2011) and Adeola (2012) observed that OTME graduates from colleges of education in Nigeria seem to lack the basic ICT skills needed to teach, evaluate students' performances and work in modern offices.

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The graduates of this programme are basically trained to train others. Where they are not competent in applying the tools of their trade, they may likely not effectively teach others and be successful in employment in this current digital era. The problem of this study is that observation and empirical evidences reveal a gap in word processing and database management competencies expected of OTME students in colleges of education. This necessitated the study for the students to evaluate themselves in order to discover areas they need to give more attention to ensure job satisfaction in employment.

Purpose of the Study

The main purpose of this study was to ascertain the ratings of OTME students of colleges of education in Delta State on their acquired word processing and database management competencies. Specifically, the study ascertained OTME students' ratings on their acquired:

1. Word processing competencies
2. Database management competencies.

Research Questions

The following research questions guided the study:

1. What are the mean ratings of OTME students of colleges of education in Delta State on their acquired word processing competencies?
2. What are the mean ratings of OTME students of colleges of education in Delta State on their acquired database management competencies?

Research Hypotheses

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

1. There is no significant difference in the mean ratings of male and female OTME students of colleges of education in Delta State on their acquisition of word processing competencies.
2. There is no significant difference in the mean ratings of OTME students of federal and state owned colleges of education in Delta State on their acquisition of database management competencies.

Method

Descriptive survey research design was adopted for the study. The population of the study was 98 final year OTME students in all colleges of education in Delta State. The population size was not too large and was studied entirely without sampling. Data were collected with a structured questionnaire on a five-point scale of Very Highly Acquired (VHA, 4.50 – 5.00), Highly Acquired (HA, 3.50 – 4.49),

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Moderately Acquired (MA, 2.50 – 3.49), Lowly Acquired (LA, 1.50 – 2.49) and Very Lowly Acquired (VLA, 0.05 – 1.49). The instrument was validated by three experts in the departments of Technology and Vocational Education and Educational Foundations, Nnamdi Azikiwe University, Awka. The reliability of the instrument was established by administering 10 copies to final year OTME students of College of Education, Ekiadolor in Benin City, Edo State, who were not part of the population of the study. Using Cronbach Alpha method, reliability coefficient scores of 0.82 and 0.93 were obtained for word processing and database management respectively, and an over-all coefficient of 0.87. The researcher and two research assistants administered 98 copies of the questionnaires to the respondents. A period of five days was used for the instrument administration and 96 copies were returned and used for analysis. The data collected were analyzed using mean and standard deviation to answer the research questions and ascertain the closeness of the respondents' mean, while t-test was used to test the null hypotheses at 0.05 level of significance.

Results

Table 1: Mean Ratings and Standard Deviation of OTME Students' Level of Acquired Word Processing Competencies

S/N	I Can Do The Following At:	Mean	SD	Remark
1	Create files and folders	3.91	1.07	HA
2	Speedily and accurately key-in text	3.48	1.02	MA
3	Format a document suitably	3.60	1.22	HA
4	Save document electronically	3.79	1.18	HA
5	Retrieve document electronically	3.32	1.30	MA
6	Use secondary storage devices	3.04	1.13	MA
7	Use options in the edit menu	3.21	1.27	MA
8	Insert headers and footers	3.15	1.44	MA
9	Insert pictures and symbols in a document	3.30	1.26	MA
10	Use table options	3.32	1.24	MA
11	Use word art to create and shape text in a document	3.27	1.45	MA
12	Address envelopes and labels	3.79	1.35	HA
13	Suitably use mail merge facility	2.57	1.09	MA
14	Print texts	2.18	1.34	LA
	Cluster Mean/SD	**3.28**	**1.24**	**MA**

Table 1 shows that the mean ratings of four of the competencies range between 3.91 and 3.60 showing that the students acquired them at a high level while nine competencies have mean ratings ranging between 3.48 to 2.57, showing that they were possessed by the students at a moderate level. The remaining one has a mean rating of 2.18 showing that the students acquired it at a low level. The cluster mean of 3.28 shows that the students rated themselves to have acquired word processing competencies at a moderate level. The standard deviations for all the items are within the same range, revealing that the respondents are not wide apart in their ratings.

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Table 2: Mean Ratings and Standard Deviation of OTME Students' Level of Acquired Database ManagementCompetencies

S/N	I Can Do The Following At:	Mean	SD	Remark
15	Create database document	3.10	1.50	MA
16	Speedily and accurately input data in a table	3.05	1.33	MA
17	Edit records in a table	3.07	1.39	MA
18	Format a table in database	2.71	1.32	MA
19	Define text field in database	2.75	1,42	MA
20	Add a field in database	2.56	1.38	MA
21	Remove a field in database	2.82	1.50	MA
22	Create queries	2.46	1.34	LA
23	Sort a query on multiple fields	2.41	1.36	LA
24	Control data access/security	2.54	1.32	MA
25	Restore data from backup files	2.56	1.43	MA
26	Print reports	3.02	1.60	MA
	Cluster Mean/SD	**2.75**	**1.41**	**MA**

Table 2 shows that the mean ratings of 10 of the competencies range between 3.10 and 2.54 showing that the students acquired them at a moderate level while two items have mean ratings ranging between 2.46 to 2.41 showing that the students possessed them at a low level. The cluster mean of 2.75 shows that the students rated themselves to have acquired database management competencies at a moderate level. The standard deviations for all the items are within the same range, showing homogeneity in the ratings of the students.

Test of Null Hypotheses

Table 3: The t-test Analysis of Male and Female OTME Students' Mean Ratings on Acquired Word Processing Competencies

Gender	N	Mean	SD	Df	α-Level	t-cal	t-crit	Decision
Male	21	3.54	1.18	94	0.05	0.58	1.96	NS
Female	75	3.37	1.27					

Table 3 reveals that the calculated t-value of 0.58 is less than the critical t-value of 1.96 at 94 degree of freedom and 0.05 level of significance. This shows that no significant difference exists between male and female OTME students in colleges of education in Delta State on how they evaluate acquired word processing competencies as a result of gender. The null hypothesis is therefore, accepted.

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Table 4: **The t-test Analysis of OTME Students' Mean Ratings on Acquired Database Management Competencies in Federal and State Owned Colleges of Education in Delta State**

InstitutionOwnership	N	Mean	SD	Df	α-Level	t-cal	t-crit	Decision
Federal	31	2.62	1.36	94	0.05	-	1.96	NS
State	65	2.96	1.42			1.16		

Table 4 shows that the calculated t-value of -1.16 is less than the critical t-value of 1.96 at 94 degree of freedom and 0.05 level of significance. This indicates that no significant difference exists between how OTME students of federal and state colleges of education in Delta State evaluate acquired database management competencies on the basis of institution ownership. Therefore, the null hypothesis is accepted.

Discussion

Findings of the study were discussed in line with the variables as follows:

Word Processing Application Competencies

Findings of the study indicated that Office Technology and Management Education (OTME) students of colleges of education in Delta State rated themselves as having acquired word processing competencies at a moderate level. The finding corroborates the reports of Ajie-Uche and Jumbo (2016) who reported that the acquisition of word processing competencies is still below expectation. The authors admonished business teachers to strive to attain high level of acquisition of word processing competencies to enhance the realization of the objectives of business education and equip students for improved academic performance leading to success in self/paid employment.Ikelegbe (2016) asserted that those who are deficient in competencies of using word processing should proceed for further training to acquire skills for efficient work performance. It is through evaluation of the students that those deficiency areas could be discovered for improvement. Okoro in Shaibu, Ameh and Barinem (2016) asserted that the purpose of evaluation in business education is to determine whether students understand what they are being taught; provide feedback to students on how well they are doing; enable the teacher know students who need special attention; supply information needed in programme evaluation and curriculum development and determine when students have the necessary knowledge and skills to graduate from the programme or enter the work-force.

As noted by Okoye (2010), with Microsoft word, an experienced teacher can effectively teach how to produce clean and quality typed document. This statement can be possible where these graduating OTME students have attained high level of competencies in word processing applications.But in this situation where the students'

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level of word processing acquisition is at moderate level, it points to the fact that these students cannot perform perfectly well in an ICT driven environment and in the virtual office as is required of them on graduation. Thus, OTME students' self-evaluation on their competency level in word processing will enable them reflect on their strengths and weaknesses and be motivated to put in more zeal in order to improve on areas of weaknesses before and after graduation. This is in agreement with the reports of Rajeev, Amit, Naveenta, Sonia, Meenal and Shashikant (2016) that self-evaluation can increase the interest and motivation level of students for subjects leading to enhanced learning and better academic performance; helping them in the development of critical skills for analysis of their own work.

The findings further revealed that gender did not significantly influence the respondents on level of acquired word processing competencies. This finding is in line with the findings of Garba (2012) that gender did not significantly influence OTM students' possessed word processing competencies.

Database Management Application Competencies

Findings of the study indicated that Office Technology and Management Education (OTME) students of colleges of education in Delta State rated themselves as having acquired database management competencies at a moderate level. This finding is similar to that of Goudy (2000) and Garba (2012) who reported that students were mostly barely proficient in database management application. Duran (2000) and Adeola (2012) reiterated that NCE graduate teachers (OTME inclusive) need to demonstrate high level of database management competencies and be professionally competent for the school system.

At this moderate level of database management competencies possessed by these graduating students, it is clear that they will be unable to effectively and efficiently create and append records to a database, edit and change records that already exist, delete old or unwanted records, rearrange records through sorting or indexing, find and locate specific records for specific purposes and write reports on the contents of the database in details or summary. Garba (2012) observed that the students' exposure to office application is grossly inadequate either as a result of inadequacy of competent lecturers, equipment and facilities, period allocation or lack of commitment on the part of the students and will adversely affect their performances in employment. Therefore, students' self-evaluation is necessary for them to identify their strengths and weaknesses in database management application and seek for ways to correct such deficiencies for an enhanced academic and job performances upon graduation. Moreso, Rajeev, Amit, Naveenta, Sonia, Meenal and Shashi (2016) recommended students' self-evaluation as an effective tool for enhancing self-directed learning and that students should be motivated to self-assess themselves.

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The findings equally indicated that respondents from federal and state owned colleges of education did not differ significantly in their level of acquired database management competencies. This corroborates that of Garba (2012) who reported that OTM students do not differ significantly in their mean ratings of proficiency in database management as a result of their institutions. The researcher therefore submitted that institution ownership does not influence students' acquisition of database management competencies, as stated in the NCCE minimum standards, as their lecturers and institution managements generally are able to guide students to achieve the objectives.

Conclusion

Based on the findings, it was concluded that the level of exposure in word processing and database management applications received by graduating students of Office Technology and Management Education (OTME) in colleges of education in Delta State is inadequate for them to be effective in carrying out their professional responsibilities on graduation, in the current technological and information era.

Recommendations

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

1. OTME students should use computers instead of typewriters right from first year through the final year of their study to be conversant with its operations and diverse applications.
2. Institutions managements should organize capacity building workshops on ICT, on a regular basis for OTME lecturers, to keep them current and be able to transfer same to the students. It is an established fact that no educational system can rise above the quality of its teachers.
3. Government, employers of labour and other stakeholders in education should collaborate in providing adequate number of computers and other information technology resources for the programme.This is to ensure students practice effectively as stipulated in the NCCE Minimum Standards.

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