

## Microsoft Access and Microsoft Excel Skills Needed by Office Technology and Management Lecturers for Quality Service Delivery

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### Abstract

*This paper was aimed at ascertaining the Microsoft access and Microsoft excel skills needed by Office Technology and Management Lecturers for effective teaching and learning of the programme. Two research questions and one hypothesis guided the study. Fifty lecturers and fifty students from selected polytechnics in the South East zone responded to the structured questionnaire items. Mean and standard deviation were used for the data analysis while the t-test was used to test the hypothesis at 0.05 level of significance. The study found out that Microsoft access and Microsoft excel sub skills are needed by office education graduates and recommended that all the institutions offering OTM as an option of business education should ensure that Microsoft Access and Microsoft Excel skills are integrated into their curriculum.*

**Keywords:** industrial cluster, industry agglomeration, product innovation

### Introduction

#### Background of the Problem

Office Technology and Management programme is a programme of study introduced to replace Secretarial Studies programme. A secretarial study is a programme of study offered in the Polytechnics, Colleges of Education, and Universities. In the Universities and Colleges of Education, it is offered as an option under Business Education. The current wave of Information Communication and Technology has affected the duties expected from graduates of secretarial studies. Modern technologies have gradually taken over the old technologies used in offices. This had led to the introduction of Office Technology and Management programme in 2004 by the National Board for Technical Education (NBTE) to replace the secretarial studies programme offered in the polytechnics. NBTE is the supervising body for polytechnics in Nigeria.

This approval was accompanied with a mandatory new curriculum. The objectives, theoretical and practical contents of the new curriculum are geared towards integrating graduates of OTM departments into the evolution of technology (Atuenyi in Nnorom,2011). This curriculum was designed in a way that many ICT courses like those that micro soft access and micro soft excel were included. Microsoft access is a form of database management system (DBMS) designed by Microsoft Corporation to facilitate data independence, share ability, consistency and non-redundancy (Ayatalumo and others, 2004). They further defined a data base as a collection of data items stored with a minimum of duplication so as to provide a consistent and controlled pool of operational data. It is simply information related to a particular subject or purpose such as tracking customer orders.

Vikas in Nnorom (2009) described Microsoft excels as one of the most versatile and popular spreadsheet programs. It serves as an electronic pad for accountants. It can easily perform simple as well as complex mathematical operations. Excel also provides the facility to convert the spreadsheet data into various charts like bar, pie, 2D, and 3D. When converted into charts, the spreadsheet data can easily be understood. The micro soft access and micro soft excel program will ensure that the graduates of the programme develop relevant and saleable competencies that would enable the recipients to be self-employed and also create employment after graduation.

The introduction of modern Information Communication and Technology courses like micro soft access and micro soft excel into the curriculum of polytechnics in Nigeria has affected the demands of the modern graduates of business education (OTM option.)

Universities that offer business education (OTM option) train the lecturers that teach in the polytechnics. Business education as a course offered in the university does not have a standard programme which should act as a bench mark for accreditation of the programme. Consequently, the individual universities offering the programme design their various programmes, hence in the curriculum of some universities, these ICT courses are lacking. Okoli, Ohaegbulam and Oduma (2011) found out that many ICT related courses were not enshrined into the business education curriculum.

They further stated that business education teachers are ineffective in imparting ICT skills to their students. The reason behind this problem could be as a result of lack of knowledge of the practical use of these ICT skills. Azih, (2011) stated that it is imperative to note that currently there is a high demand for skilled and technological trained workers. Regrettably, most OTM graduates acquire theoretical knowledge which does not match well with the demands of the work place. She further observed that there is acute shortage of trained personnel in the application of software, operating system, network communication, and local technicians to service and repair computer facilities.

Eya (2009) equally observed that nonetheless, quality and goal oriented education is the aspiration of every teacher. In the national policy on education, it is stated that the goals of teacher education has one of its goals as to provide teachers with the intellectual and professional background adequate to changing situation. It is an imperative that Microsoft excels and Microsoft access skills are included in the business education (OTM option) curriculum for qualitative training of office educators.

### ***Statement of Problem***

The introduction of OTM in the curriculum of the polytechnics, by NBTE has affected the demands of the lecturers that teach these polytechnic students. This is based on the fact that new ICT packages like micro soft excel and micro soft access were introduced into the curriculum.

A look at the OTM programme of some universities offering business education, you will discover that these micro soft access and micro soft excel skills were not part of the curriculum. It is the graduates from business education (OTM option) that are expected to teach these ICT courses. One wonders the quality of service these graduates will deliver when the basic knowledge of the micro soft access and micro soft excel competencies are lacking.

Okoli, Ohaegbulam and Oduma (2011) equally agreed that business education graduates lack the needed skills and competencies required for the actual performance of the skills so learnt as a result of low practical content of the business education curriculum. The researcher therefore tries to ascertain the Microsoft excel and Microsoft access competencies needed by business education (Office Education Option) graduates for effective teaching and learning of Office Technology and Management students in the polytechnics.

### ***Purpose of Study***

The major purpose of the study is to identify the micro soft access and micro soft excel competencies needed by office education teachers for effective teaching of OTM courses in Nigerian polytechnics. Specifically, the study sought to:

- Identify the micro soft access competencies needed by OTM lecturers.
- Ascertain the micro soft excel competencies needed by OTM lectures.

### ***Research Questions***

1. What are the micro soft access competencies needed by OTM lecturers.
2. What are the Microsoft excelling competencies needed by OTM lecturers.

### ***Hypothesis***

The responses of Lecturers and students on micro soft excel competencies required by Secretarial Studies/Office Education teachers will not differ significantly.

## Methodology

A survey design method was used for the study. A structured questionnaire was distributed to 100 respondents comprising of 50 students and 50 lecturers from selected polytechnics in the south east geo political zone in Nigeria. The Polytechnics selected were Federal polytechnic, Uwana, Ebonyi State; Federal polytechnic, Nekede, Imo State; Federal Polytechnic, Oko, Anambra State and Abia State polytechnic, Aba, Abia State. The questionnaire items were organized into two clusters. The questions were structured in a way to conform to the research questions. The reliability of the instrument was tested and reliability index of 0.67 was gotten. Mean and standard deviation were the statistical tools used for answering the research questions while t- test was used for testing the hypothesis at 0.05 level of significance.

## Results

### Research Question 1

1. What are the micro soft access competencies needed by Office Technology and Management lecturers. The summary of the data collected is shown as follows:

**Table 1: Micro soft access competencies needed by secretarial studies teachers**

S/No	Micro-Soft Access Sub Skills	X	Sd	Remarks
1.	Able to create, maintain and modify database	3.79	.498	Needed
2.	Competency in adding and deleting records from database	3.58	.669	Needed
3.	Ability to generate reports from database	3.46	.717	Needed
4.	Skill in linking information from different environment	3.40	.681	Needed
5.	Sharing information among different Workstations	3.61	.634	Needed
6.	Use of access environment such as title bar, Menu bar etc.	3.56	.729	Needed
7.	Use access objects such as tables, forms, query	3.39	.815	Needed
8.	Use tags for various types of objects	3.13	.872	Needed
9.	Planning a data base before creating it	3.52	.643	Needed
10.	Designing of tables	3.43	.685	Needed
11.	Designing of fields	3.32	.750	Needed
12.	Ability to relate or join tables to one another	3.14	.932	Needed
13.	Knowing how to define a field	3.04	.909	Needed
14.	Knowing the types of field names and their Tags such as binary, cur for currency, etc.	3.23	.863	Needed
15.	Knowledge of various data types such as Text, memo, etc	3.47	.703	Needed
16.	Use primary keys that identify records in Fields properties	3.35	.757	Needed
17.	Creating tables using table wizard	3.53	.688	Needed
18.	Selection of sample tables and fields	3.21	.769	Needed
19.	Selection of the field to use for primary key	3.07	.782	Needed
20.	Understanding the use of field properties	3.16	.838	Needed
21.	Ability to name and set primary key	3.34	.639	Needed
22.	Understanding the way to modify tables	3.27	.790	Needed
23.	Knowledge of how to view the table design	3.54	.642	Needed
24.	Creating of a table in design view	3.40	.752	Needed
25.	Creating a table from scratch	3.54	.730	Needed
26.	Create a new table object	3.41	.698	Needed
27.	Create text fields	3.17	.805	Needed
28.	Create a yes/no field	3.06	.814	Needed
29.	Create a date/time field	3.20	.791	Needed

30. Create a number field and enter a field description	3.06	.827	Needed
31. Create a currency field	3.14	.817	Needed
32. Create a memo field	3.13	.895	Needed
33. Save primary key and table design	3.34	.819	Needed
34. View or edit indexes	3.22	.799	Needed
35. Navigating within a table	3.53	.627	Needed
<b>Grand mean</b>	<b>3.34</b>		

All the sub skills listed in the questionnaire were indicated to be needed. They all scored a mean point higher than 2.5 meaning that all are accepted to be relevant.

### Research Question 11

2. What is the Microsoft excel competencies needed by Secretarial Studies/Office Education teachers. The result of the analysis is shown on table 11 below:

**Table II: Micro soft excel competencies needed by secretarial studies teachers**

S/NO	MICRO SOFT EXCEL SUB SKILLS	X	SD	REMARKS
1.	Ability to start micro soft excel	3.86	.403	Needed
2	Ability to plan spreadsheet	3.61	.510	Needed
3.	Planning of numerical table titles, use of Columns & rows	3.38	.678	Needed
4.	Move from cell to cell in Ms-Excel	3.59	.621	Needed
5.	Change a spreadsheet look	3.29	.743	Needed
6.	Entering, edit and manipulation of data	3.51	.689	Needed
7.	Produce a basic spreadsheet with formulae	3.38	.722	Needed
8.	Creation of arithmetic formulae	3.01	.999	Needed
9.	Using common functions	3.18	.770	Needed
10.	Replicate or fill formulae	3.06	.919	Needed
11.	Use of common numerical formatting and alignments	3.32	.737	Needed
12.	Linking of line data from one spreadsheet to another	3.35	.744	Needed
13.	Use spreadsheet to solve problems and project results	3.49	.785	Needed
14.	Manage and print spreadsheet documents	3.43	.742	Needed
15.	Type numbers using correct techniques in Touching a key	3.16	.884	Needed
16.	Apply typing techniques when typing symbols	3.11	.875	Needed
17.	Creating charts and graphics	3.35	.730	Needed
18.	Select/Enter headings and axis titles	3.42	.727	Needed
19.	Formulating axis	3.15	.833	Needed
20.	Set numerical parameters	3.06	.874	Needed
21.	Format data using legend when appropriate	3.08	.849	Needed
22.	Design and modify appearance of chart and graphics	3.36	.772	Needed
23.	Save and print charts and graphs.	3.66	.59	Needed
<b>Grand mean</b>		<b>3.33</b>		

The respondents agreed that all the items are relevant. All the items scored a mean score above 2.5 showing that they accepted all the sub skills to be relevant.

**Hypothesis:** The responses of Lecturers and students on micro soft excel competencies required by OTM teachers will not differ significantly.

The responses of Lecturers and students on micro soft excel competencies required by OTM a lecturer is shown below.

**Table III: T-test analysis of the responses of Lecturers and Students on micro soft access competencies required by secretarial studies teachers**

S/N	ITEM	TYPE	NO	X	SD	t-cal	df	t-crit	
<b>Decision</b>									
1.	Ability to start micro soft excel	Lecturer	50	3.92	.396				
		Student	50	3.80	.404	.137	98	1.960	Accepted
2	Ability to plan spreadsheet	Lecturer	50	3.60	.494				
		Student	50	3.62	.530	.846	98	1.960	Accepted
3.	Planning of numerical tables, use Columns & rows	Lecturer	50	3.38	.667				
		Student	50	3.38	.697	1.00	98	1.960	Accepted
4.	Move from cell to cell in Ms-Excel	Lecturer	50	3.78	.418				
		Student	50	3.40	.728	.002	98	1.960	Accepted
5.	Change a spreadsheet look	Lecturer	50	3.30	.678				
		Student	50	3.28	.809	.894	98	1.960	Accepted
6.	Entering, edit and manipulation of data	Lecturer	50	3.54	.646				
		Student	50	3.48	.735	.665	98	1.960	Accepted
7.	Produce a basic spreadsheet with Formula	Lecturer	50	3.40	.606				
		Student	50	3.36	.827	.783	98	1.960	Accepted
8.	Creation of arithmetic formulae	Lecturer	50	2.98	1.06				
		Student	50	3.04	.947	.766	98	1.960	Accepted
9.	Using common functions	Lecturer	50	3.20	.639				
		Student	50	3.16	.126	.797	98	1.960	Accepted
10.	Replicate or fill formulae	Lecturer	50	3.34	.593				
		Student	50	2.78	1.09	.002	98	1.960	Accepted
11.	Use of common numerical Formatting and alignments	Lecturer	50	3.40	.670				
		Student	50	3.24	.770	.280	98	1.960	Accepted
12.	Linking of line data from one Spreadsheet to another	Lecturer	50	3.44	.644				
		Student	50	3.26	.828	.228	98	1.960	Accepted
13.	Use spreadsheet to solve Problems and project results	Lecturer	50	3.52	.707				
		Student	50	3.46	.862	.704	98	1.960	Accepted
14.	Manage and print spreadsheet Documents	Lecturer	50	3.46	.646				
		Student	50	3.40	.833	.688	98	1.960	Accepted
15.	Type numbers using correct Techniques in touching a key	Lecturer	50	3.18	.850				
		Student	50	3.14	.926	.822	98	1.960	Accepted
16.	Apply typing techniques when Typing symbols	Lecturer	50	3.04	.880				
		Student	50	3.18	.873	.426	98	1.960	Accepted
17.	Creating charts and graphics	Lecturer	50	3.34	.626				
		Student	50	3.36	.827	.892	98	1.960	Accepted
18.	Select/Enter headings and axis titles	Lecturer	50	3.54	.579				
		Student	50	3.30	.839	.099	98	1.960	Accepted
19.	Formulating axis	Lecturer	50	3.26	.600				
		Student	50	3.04	1.01	.188	98	1.960	Accepted
20.	Set numerical parameters	Lecturer	50	3.08	.752				
		Student	50	3.04	.989	.820	98	1.960	Accepted
21.	Format data using legend when appropriate	Lecturer	50	2.88	.849				
		Student	50	3.28	.809	.018	98	1.960	Accepted
22.	Design and modify appearance of chart and graphics	Lecturer	50	3.54	.542				
		Student	50	3.18	.919	.019	98	1.960	Accepted
23.	Save and print charts and graphs.	Lecturer	50	3.80	.404				
		Student	50	3.52	.707	.017	98	1.960	Accepted
<b>OVERALL</b>		<b>LECT</b>	<b>50</b>	<b>3.39</b>	<b>.221</b>				
		<b>STUD</b>	<b>50</b>	<b>3.30</b>	<b>.472</b>	<b>.193</b>	<b>98</b>	<b>1.960</b>	<b>Accepted</b>

The result of the test of hypothesis indicates that for all the items the calculated t is less than the critical value of t showing that there is no significance difference between the response of teachers and students on the micro soft excel competencies required by OTM lecturers.

**Discussion:**

The result of the study shows that micro soft access and micro soft excel skills are relevant to OTM students. This finding agrees with the view of Oliseh (2010) who stated that due to the dynamic nature of office work in the face of rapid technological changes, secretaries themselves should expand their intellectual horizon in order to be able to fit into alternative jobs that are being created by the use of high technology in the modern office environment.

Etonyeaku (2010) equally observed that the new trends in the office are office information systems and these new trends in technological innovation place greater responsibilities on business educators and secretarial studies students. Expertise with the current applications is very crucial to business educator's efficiency and effectiveness in the teaching and learning of the new curriculum. The advantages of the knowledge of the packages to the students are not farfetched. This is buttressed by the stance of Ohakwe and Okwuanaso (2006) in Akiti and Onyema (2010) that the knowledge of computer application softwares such as Spreadsheet, Excel, Computer Aided Design and Data-Base are important skills that should be impacted on the recipients of business education. This will enable them to compete favorably in the business world. This will enable them fit in well in the ICT-oriented offices.

Azih (2011) equally observed that secretarial studies programme should be of the right quality. Secretarial Educators should be trained on Microsoft excel and micro soft access skills so that they can effectively teach these computing systems to secretaries. When the knowledge is lacking, the recipients would not be appropriately trained. Effective teaching and learning of ICT courses like micro soft excel and micro soft access can only be achieved in the polytechnics and other tertiary institutions offering OTM when adequate training is given to the graduates of the programme in the universities who are expected to lecture these ICT packages. When the knowledge of the application of the software is lacking the teacher finds it difficult to impact the required skills and competencies as indicated in the NBTE curriculum.

**Conclusion**

Curriculum should be regularly reviewed since knowledge is not static but rather changes with time. Based on the above assertion, one can conveniently conclude that it is an imperative to ensure that the micro soft excel and micro soft access sub skills are impacted to OTM students to enhance effective technological development of the students. This is based on the fact that the world is now technology-driven and the OTM graduates should be trained in line with the new trend in technology.

**Recommendations**

Based on the findings and conclusion above, the researcher recommends the following

That the institutions running OTM programmes should make conscientious efforts to make sure their graduates acquire micro soft access and micro soft excel competencies for the recipients to impact the skills effectively in polytechnics and other tertiary institutions that offer the programme Necessary infrastructural provisions for the hardware and software for training OTM students should be adequately provided and maintained.

Adequate human resources in terms of sufficient qualified lecturers should be provided for qualitative teaching and learning of OTM courses in the universities. National University Commission (NUC) during accreditation visits must ensure that ICT courses like those that micro soft access and micro soft excel are included in the curriculum for OTM programme. Retraining programme should be organized for office technology and management lecturers to update their knowledge on the use of micro soft excel and micro soft access skills.

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