



**COMPUTER SYSTEM OPERATING SKILLS REQUIRED BY LECTURERS FOR EFFECTIVE IMPLEMENTATION OF OFFICE TECHNOLOGY AND MANAGEMENT (OTM) CURRICULUM IN POLYTECHNICS IN SOUTH-EAST**

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**Abstract**

*The study ascertained the system operating skills required by Office Technology and Management (OTM) lecturers in Polytechnics in South East Nigeria for effective implementation of OTM curriculum. One research question guided the study and one null hypothesis was tested at 0.05 level of significance. In carrying out this investigation, a survey design was used. The population comprised 90 OTM lecturers in the Polytechnics in the geographical zone. The entire population was studied because it was manageable. A four point scale structured questionnaire with 23 items was used. The data collected were analysed using mean statistics and standard deviation for the research questions and t-test for the hypothesis. The result showed that OTM lecturers in Polytechnics in South East Nigeria required ICT skills for the use of basic computer system operating software in order to effectively implement OTM curriculum and that years of experience had significant influence on the ICT skills required by lecturers for the use of basic computer operating system software for implementation of OTM curriculum. Based on the findings of the study, it was concluded that acquisition of adequate ICT skills will enable lecturers achieve the educational goal of OTM curriculum. Therefore the study recommended among others, that team teaching should be encouraged in the implementation of OTM curriculum; government and management of the Polytechnics should organize impact programmes that will help bridge the gap between the training skills in Secretarial Studies and that of OTM; OTM lecturers should embark on self development to enable them get abreast with required ICT skills; and that professional development programmes for lecturers should provide technology-rich experiences in all aspects of learning.*

**Keywords:** *Curriculum, Implementation, Skill, Technology, Telecommunication, Operating System. Office Management.*

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**Introduction**

Advancement in technology has brought about emergence of the computer system as major instrument for word/data processing and telecommunication in the office instead of manual/electric typewriters and analogue telephones. These changes in equipment have made change in skill and invariably change in curriculum and method of implementation



mandatory. These machines and equipment are called information and communication technologies. This is a concept that has emerged as a result of the amalgamation of information technology and communication technology. They are summed up in computer machinery/software and other equipment and machines which are used to digitally create, collect, store, manipulate and relay office information needed for accomplishing basic business tasks and goals. This has led to a restructuring of the curriculum that is expected to produce secretaries (office managers) who should manage the modern office.

The National Board for Technical Education (NBTE) introduced a new curriculum christened Office Technology and Management to replace the Secretarial Studies curriculum in 2004. The new curriculum was enriched with several ICT courses amidst other injections. It is designed in modular approach and accommodates practical and theoretical ICT knowledge which is intended to equip students with office and secretarial skills for employment in various fields or be self-employed (Ndinechi and Gude, 2014). The curriculum lays emphasis on the skills that will enable the ND/HND graduates fit into automated offices and perform professionally the roles of office managers (Ikelegbe and Odede, 2012). Umukoro (2014) observed that the implication of the objectives and components of the OTM curriculum is that its recipients are expected to be impacted with skills to use computer and its application software.

As wonderful as the curriculum is, there are issues with its implementation based on the assertion of Isyaku in Adelakin (2009) that one cannot talk about reforming the content of a curriculum without retraining the teachers and instructors involved in the teaching and learning process. Unfortunately this was the case with the implementation of the OTM reformed curriculum content. The programme therefore, came with the challenge of new skills and competencies needed to be acquired unlike the secretarial studies curriculum. OTM curriculum challenges students with the ability to think in a creative manner and take appropriate decisions where necessary; and this is expected to be inculcated by the teacher. Braimoh and Ovbiagele (2013) also noted the skills gap in the implementation of the OTM curriculum stating that we cannot embark on the mission of changing a programme without first of all re-aligning the teachers and instructors through training for these are the people involved in the different implementation phases.

However this is the case with OTM curriculum review as most instructors and lecturers are observed off-loading the theoretical knowledge of the ICT-driven courses as read in the text without due consideration to the practical aspects emphasized by the curriculum (Braimoh and Ovbiagele, 2013). Ikelegbe and Odede (2012) trying to emphasize the importance of implementation programme in curriculum, declared that implementation is the vehicle that drives curriculum plan into practice. OTM lecturers therefore need *pedagotronic* skills; these will enable them demonstrate observable patterns for the learners to model after.



Nwaokolo and Arukwe, in Nwachukwu (2014) saw skill as the aptitude and proficiency acquired by individuals that will help them to function effectively when employed. Nwachukwu further stated that acquisition of skills is pertinent to business educators as they will transfer them to would-be secretaries in the course of delivery. In other words, one can say that if the students must exhibit the best type of skill, then the business educator should possess the best type of skill. In other words, the implementer of OTM curriculum should be able to manipulate proficiently the information communication equipment.

According to Dimoji, Benson-Emenike and Oju (2010) the computer as a system is made up of inter-related components that work together to achieve its purpose of handling data and information. The hardware which is the equipment and devices that make up a complete computer system is made up of the input and output devices; the central processing and the auxiliary storage units. Whereas the software component which are the programmes (instructions) that control and co-ordinate the activities of the computer hardware and direct the processing of data are of two types, system software and application software. The system software house the operating systems, the translators and utility programmes that control the operations of the computer whereas the application software which is made of the user-application programmes and application packages are programmes designed for specific practical use, (Ndukwe, 2010). Morrison and Wells (2010) contributed that for a user to be able to handle the computer such user must be able to identify the purpose of an operating system; identify different operating systems; describe computer user interaction with multiple operating systems; identify system limitations and describe common problems relating to operating systems. Williams, Sawyer and Hutchinson (1995), corroborate the view of Morrison & Wells that computer operating system does the work of booting, managing storage media, providing user interface, managing resources, files, and tasks of the computer. Office Technology and Management lecturer needs skills in the use of operating system to enable him/her interact with a computer and take advantage of the computer technology while taking into consideration the limitations it has set to protect itself and the data on the computer. This is because the operating system grants the user the permission to perform some tasks while preventing such user from performing others.

In the view of Nwosu and Mbaezue (2016), experience has a strong impact on ICT utilization. They observed that the highly experienced OTM lecturers of over ten years were not effectively taught with ICTs and that the less experienced lecturers are still striving for perfection in the handling of ICT in lesson presentation. If OTM lecturers were adequately trained in ICT they will not only be more motivated towards ICT operations but will produce better quality students.



As observed by Thom-Otuya and Ubulom (2007) the challenge of Office Technology and Management is in the implementers being updated with appropriate skills since nothing can compensate for a poor teacher. Nwosu (2006) also corroborated that the inability of business education which OTM is part of to achieve its objectives is because of poor implementation. Therefore, because of the limitless growth in information and communication technology, it is necessary that OTM lecturers must focus on making technological learning a vital part of their lives so as to be integrated into their instructional delivery competencies

### **Statement of the Problem**

The restructuring of Secretarial Studies curriculum with a new nomenclature OTM has paved way for the introduction of new ICT skilled courses in the field. This challenge has further given room for the introduction of new office values and equipment in OTM programme. This innovation has challenged both teachers and students of OTM in their respective functions of teaching and learning. Therefore, a new demand for skill training, skill teaching and skill acquisition are all before the teachers and the students. All are left to the teachers' ability and competence especially in the effective implementation of the OTM curriculum in Polytechnics.

In the light of the above, there is the fear that OTM lecturers in Polytechnics in South East Nigeria might not possess the basic ICT skills for effective implementation of OTM curriculum in order to align this aspect of business education to the e-world.

### **Purpose of the Study**

The purpose of this study was to ascertain the basic computer system operating skills required by lecturers for effective implementation of OTM curriculum in Polytechnics in South East Nigeria.

### **Significance of the Study**

The result of the study will be of immense benefit to curriculum planners, lecturers in OTM department, students, and researchers, management of the polytechnics, business organisations, the government, and the society at large.

The study would be of immense benefit to OTM curriculum planners as it would bring about the achievement of the desired goals and objectives of the curriculum. This, it will do by providing the requisite ICT-skills for the implementation of OTM curriculum. NBTE/UNESCO will be grateful that their effort is not futile, with the products of the curriculum dominating and taking charge in the office environment. NBTE accreditation activities will also be affected as they will match the competencies of the lecturers' *visa viz* the implementation of the new curriculum thereby denying accreditation to any school that does not meet-up with the minimum requirement of ICT-skilled lecturers.



This study would be useful to the lecturers as it will help them sharpen their skills in the manipulation of modern office technological devices. They will be versatile and competent in the use of ICT for purpose of teaching and learning. If such happens the lecturers will teach as masters and also use these skills for personal profits. They will get the best that will enable them manipulate their environment. They will be able to use modern technologies as pedagogical tools.

### **Research Question**

What are the computer system operating skills required by lecturers for effective implementation of OTM curriculum?

### **Hypothesis**

There is no significant difference in the mean responses of experienced lecturers and less experienced lecturers on the computer system operating skills required for effective implementation of OTM curriculum.

### **Method**

A descriptive research design was used in the study. The study looked into the opinions and views of lecturers concerning the ICT skills required for effective implementation of OTM curriculum. To answer the research question, a structured questionnaire comprising 23 items was used for data collection. The questionnaire was validated by business educators. The reliability of the instrument was tested and it yielded a reliability index of 0.96. The population of the study comprised all the 90 OTM lecturers in State and Federal polytechnics in South East Nigeria. The entire population was studied. This was the case because Ezemoyih and Ugochukwu (2014) explained that whenever the population is manageable, the entire population could be studied. Eighty one copies of the questionnaire were returned for data analysis. Data was analysed using mean and standard deviation for the research questions while the hypotheses were tested at 0.05 level of significance using t-test.

### **Research Question**

What are the ICT skills required by lecturers for effective utilization of basic computer operating system software?

### **Result**

**Table 1:** Mean Responses on Computer System Operating Skills Required for Effective Implementation of OTM Curriculum



S/N	Item	HR	R	FR	NR	$\bar{x}$	S.D	Interpretation
1.	Ability to identify the basic components of the computer	38	19	16	8	3.07	1.03	Required
2.	Ability to describe the functions of the different components of the computer system	26	21	17	17	2.69	1.13	Required
3.	Ability to figure out the roles of operating systems.	18	33	24	6	2.77	0.88	Required
4.	Skills in booting the computer system	31	37	5	8	3.12	0.91	Highly Required
5.	Ability to log into the window environment	26	19	14	22	2.60	1.20	Required
6.	Ability to connect computer peripherals to system	32	23	10	16	2.87	1.14	Required
7.	Ability to identify different operating systems	17	20	15	29	2.30	1.16	Required
8.	File management skills	13	16	4	48	1.92	1.20	Fairly Required
9.	Ability to run print set-up	30	22	8	21	2.75	1.21	Required
10.	Applying the skills in the use of storage devices	33	16	28	4	2.96	0.98	Required
11.	Ability to demonstrate keyboarding skills	29	26	15	11	2.90	1.04	Required
12.	Ability to transfer data and information from one source to another	38	17	18	8	3.04	1.04	Required
13.	Proficiency in refreshing a page	33	20	18	10	2.93	1.06	Required
14.	Applying text-editing skills	11	12	4	54	1.75	1.14	Fairly Required
15.	Being able to use different systems as a result of knowledge of basic concept of the common functions of different systems.	37	16	19	9	3.00	1.07	Required
16.	Skills in document alignment	27	32	18	4	3.01	0.87	Required
17.	Ability to identify system limitations	18	13	7	43	2.07	1.26	Fairly Required
18.	Ability to describe common problems related to operating systems	28	24	7	22	2.71	1.20	Required
19.	Ability to use help menus of the computer	22	37	17	5	2.93	0.85	Required
20.	Ability to run more than one programme at a time	26	39	12	4	3.07	0.81	Required
21.	Use of font selection properties	19	26	15	21	2.53	1.11	Required
22.	Ability to format data	31	22	10	18	2.81	1.17	Required
23.	Ability to use the file system	20	16	20	25	2.38	1.16	Required
<b>Grand Mean</b>						<b>2.70</b>		<b>Required</b>



Data in the Table 1 above reveal that questionnaire items 1-23 have a grand mean of 2.70 which is within the range of 2.1-3.0 and therefore required. This implies that ability to identify the basic components of the computer, describe the functions of the different components of the computer system, figure out the roles of operating systems, boot the computer system, log into the window environment, connect computer peripherals to system, identify different operating systems, manage files, run print set-up, use storage devices, demonstrate keyboarding skills, transfer data and information from one source to another, refresh page, edit text, use different systems, align documents, identify system limitations, describe common problems related to operating systems, use help menus, run more than one programme at a time, use font selection properties, format data, and use the file system are ICT skills required for effective implementation of OTM curriculum.

### Hypothesis

There is no significant difference in the mean responses of highly experienced lecturers and less experienced ones on the computer system operating skills required for effective implementation of OTM curriculum.

**Table 2:** Summary of t-test analysis on Computer System Operating Skills Required for Effective Implementation of OTM Curriculum Based on Experience.

Experience	N	Mean	SD	Df	t-cal	t-Crit	Decision	Sig.
Highly Experienced	37	2.91	0.88	79	2.68	2.00	Reject	Significant
Less Experienced	44	2.68	1.04					

From the Table 2 above, it is observed that the calculated t-value (2.68) exceeded the critical t-value of 2.00 at 0.05 level of significance; hence  $H_{01}$  is rejected which means that there is a significant difference in the mean responses of highly experienced lecturers and less experienced ones on the ICT skills required for effective utilization of system operating software in the implementation of OTM curriculum.

### Discussion

Lectures considered the items as ICT skills required for utilization of operating system software for effective implementation of OTM curriculum as the findings showed a grand mean of 2.70. Therefore the finding of the study is in agreement with the assertion of Morrison and Wells (2010) that for one to use computer such user must be able to identify the purpose and use of an operating system.

The operating system is a software that enables the computer hardware to communicate and operate with the application software. Already Ndukwe and Nwosu



(2010) have posited that computer is the primary vehicle for processing information; therefore ability to understand and use the operating system software enables one to use the computer in varying areas. The findings of the study are also in consonance with the stand of (Ndukwe & Nwosu, 2010) that one must be skilful enough in the use of operating system software for such a user to use computer effectively.

This is in coherence with Adelakin (2009) who infers that a lecturer must be able to use whatever equipment he is teaching the students its usage. Dimoji, Oju and Benson-Emenike also maintained that such user must have skills in turning on (booting) and loading an operating system into a computer's main memory from disk. Moreover, Nzewi, Okpara and Akudolu (1995) in agreement that skill is the proficiency to perform a task, support that lecturers need these skills in order to achieve the goal of OTM curriculum which is ICT-driven.

The findings are also in line with the opinion of Alseid and Pathan (2015) who highlighted that when teachers are digitally literate and trained to use ICT it can lead to higher order thinking skills, provide creative and individualized option for students to express their understanding and leave them well prepared to deal with ongoing technological advancement in society and workplace. In other words, these skills are required for the goal of OTM curriculum to be achieved considering that the curriculum is designed to accommodate practical and theoretical ICT knowledge in order to equip students with office and secretarial skills for employment in various fields. These skills are therefore a prerequisite to the achievement of the objective of equipping the students with the knowledge, competencies and specific skills that will enable them successfully hold positions as secretaries, managers and administrators in both private and public sectors of the Nigerian economy (NBTE 2009).

It was found that highly experienced lecturers and less experienced ones differed significantly in their mean responses on the ICT skills required for effective utilization of system operating software in the implementation of OTM curriculum. This finding could be explained with the assertion of Fadare (2015) that most of the highly experienced OTM lecturers are not conversant with modern technologies and are not well disposed to it which accounts for their inability to effectively use them in their teaching and learning. Afeidia (2014) also maintained that you can only give the type of training you received therefore varying training periods of these lecturers which account for varying equipment used in their training might be the reason for the difference in the mean responses. Therefore, the findings are in agreement with Badau and Sakiyo (2013) who found that teachers in institutions of learning require ICT knowledge and skills to handle information in order to generate knowledge in learners.



## **Conclusion**

Based on the findings of the study, it was concluded that the OTM lecturers in Polytechnics in South East Nigeria considered ICT skills for utilization of basic computer operating system software as a requirement for effective implementation of OTM curriculum. The acquisition of adequate ICT skills for the utilization of basic computer operating system software by lecturers will bring about effective implementation of OTM curriculum in Polytechnics in South East Nigeria as it will enable them to demonstrate the use of the computer system to students.

## **Recommendations**

Based on the findings, the study thus recommends the following:

1. Management should encourage lecturers by organizing programmes from time to time to train lecturers with state of the art technology. Moreover OTM lecturers, as a matter of urgency, should continually update their knowledge so that they will be skilful enough to use technology in the teaching and learning processes.
2. Curriculum Planners should ensure that curriculum developments in OTM emphasize currently reported demands in office technology and management as well as needs of students. This will give directions to the implementers and direct their training and retraining efforts on which skills to go for since they need such skills to be effective in curriculum implementation.
3. Head of Departments of OTM should promote Team-teaching strategy in the implementation of OTM curriculum. This will enable instructors and lecturers, highly experienced and less experienced lecturers alike to contribute their individual quota, making for complete teaching of the theoretical and practical modules of the ICT enriched OTM curriculum.

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