

## Level of Availability and Utilization of ICT Facilities in Teaching and Learning of OTM in Polytechnics of South Eastern States in Nigeria

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### Abstract

This study was undertaken to assess level of availability and utilization of ICT facilities in teaching and learning of OTM in Polytechnics of South Eastern States, Nigeria. The study adopted a survey design. Five research questions guided the study while two hypotheses were tested at 0.05 level of significance. The population for the study consisted of 88 OTM Lecturers. A validated questionnaire containing 65 items was used for data collection. The arithmetic mean and standard deviation were used to analyze data in the research questions while the t-test was used to test the hypotheses. It was found that ICT facilities for teaching OTM courses are available at low extent. The computer facilities, telecommunication facilities, multimedia facilities and internet facilities were utilized at low extent. There was no significant difference between the mean ratings of male and female polytechnic OTM lecturers on their extent of computer facilities utilization and a significant difference in the mean rating of polytechnic OTM lecturers in rural and urban location on the extent of telecommunication facilities utilization in teaching OTM courses. It was concluded, based on the findings of the study that ICT for implementation of OTM programme in polytechnic of south eastern states, Nigeria are available and utilized at low extent. The implication of this study is that the ICT facilities should be made available and respondents need re-training to acquire relevant ICT skills in order to inculcate them in their students. It was recommended, among other things, that there should be frequent training and retraining programmes in ICT facilities, NBTE should set utilization standard of ICT facilities, in order to check mate the competency level of OTM lecturers in teaching with these facilities, Business teacher programme should be restructured in line with ICT needs of employers of business education graduate which polytechnic OTM department is one.

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**Keywords:** Information and Communication Technology, Office Technology and Management, Teaching and Learning, Availability and Utilization

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### INTRODUCTION

The innovations that have taken place world-wide on the area of information communication technology have broken all national and international barriers and tuned the world into a global village, since it has made information available to organization and individuals everywhere and at anytime. Consequently, this has affected the nature, procedure and forms of equipment used in office functions. According to Agbam (2006) graduates who want to fit into the present computerized and information technology driven workforce, (including office technology and management graduates) needs to possess the competencies required by employers of labour or have competitive edge over others in the area of information and communication technology (ICT). Information and communication technology (ICT) refers to the whole range of technologies involved in information processing and electronic communication. It is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phone, computer and network hardware and software,

satellite system among others these contribute to organizing, processing, communicating, assessing, presenting, storing, retrieving and simplifying information when needed and in the form needed. ICT centered education covers the use of computers, online self learning packages, interactive CDs, satellites, radio, tele-presence system, optical fiber technologies and all types of information technologies hardware and software (Adebayo, 2002 in Onasanya, Shehu, Ogunlade & Adefuye, 2011).

Office technology and management programme in polytechnics could be seen as a curriculum response to the demands of dynamics and computerized workplace, which is aimed at the production of highly proficient breeds of administrative personnel that would coordinate high office information systems, and provide technical skills with core business line functions. This is in line with the issue of national policy on education revised 2004. The policy according to Aquah and Obi in Baba and Akaraha (2012) aimed at acquisition of appropriate skills, abilities and competencies both mental and

physical as equipment for individual to live and contribute to the development of the society. Office technology and management programme has been designed by the National Board for Technical Education on November 2004, to replace secretarial studies programme which had been in existence since 1989. According to Nwosu in Baba and Akaraha (2012) the review was necessitated by the fact that the skills, attitude and knowledge previously acquired in the course of the study were inadequate to arm today's graduate secretaries with the competencies needed to adjust to the rapidly changing needs of the office. However, the programme came into being for two major reasons: one is response to the yearning of secretarial students on the need to change the name. Secondly and most importantly, as a result of change in curriculum with more emphasis on ICT so as to equip students with necessary skills needed in today office environment.

OTM objectives include the following;

- Equipping the students with the knowledge, competencies and specific skills that will enable them to successfully hold position as secretaries, managers and administrative assistant in both public and private sectors of the economy.
- Exposing student to industrial experience thereby affording them the opportunity to practicalise their skills.
- Developing the student's potentials for further academic and professional pursuit.
- Developing in the students an occupational intelligence that will make them versatile and adaptable to the changing situation in the world of works (NBTE, 2006).

In a bid to attain the above objectives, several strategies and resources which range from human to material including audio visual-media , communication, computer and networking materials resources which are intended for effective instruction in the discipline. Effective instruction here, implies availability of ICT instructional materials and utilization of the ICT instructional material on application area such word processing, excel, desktop publishing, e- mail presentation software, videoconferencing, teleconferencing, multimedia message services among others.

Each of these application programme has a particular skill, knowledge and experiences that a teacher is required to impart to the learner at the course of teaching and learning. For example at the cause of teaching word processing polytechnic OTM lecturers exposes the learner on how to load or open a word processor, use of input devices to enter edit text accurately, open, copy, save, paste, cut, delete, create and print a document, application of borders and shading, bullet and numbering, paragraphing, font

size, font colour, undo, redo, table work among others. Excel application in office technology and management programme according to Robert (2004) features calculation, graphic tools, pivot tables. In teaching of excel application, polytechnic OTM lecturers exposes the learner to practical skills on how to open excel application, create chart and graphic, navigate on the cells, edit save, delete and manipulate data, create formulae, calculations and recalculation.

Database is another ICT application in OTM programme that is required of OTM lecturers to exposes the learner on how to create file, store, process and manage a database. Here the polytechnic OTM lecturers are expected to equip the learner with in-depth knowledge of how to use data management for data management like student database management, lecturers database managements. For example, OTM lecturers are to teach the learner how to create a new database using database wizard, open previously save data, illustrate how table structure could be changed or improved among others among others. Meanwhile, in basic presentation application (PowerPoint) polytechnic OTM lecturers are required to expose the learner on the application of visual presentation using interactive board, overhead projector, slide, video to create over head projector slides, set up slides layout, enter text and learn how to add clip art, select font and background among others.

Internet is another area of ICT application in OTM programme that is required to expose the learner on how to use e-mail, create an account using e-mail with user name and password, compose, reply, read ,send mails, attach and download attached files, import pictures from other application, search the web for information.

Other areas of Information and communication technology related activities/applications in OTM programme according to Ezenwafor (2012) include;

- Use of micro computer with software application to produce a document
- Skilful keyboarding, using broad cast material or CD ROM for information collection and storage
- E-mailing and messaging
- Internet browsing using search engines, window messenger, yahoo chartrooms
- Using projectors, slide and multimedia projector for presentation among others.

Hence, in technology utilization, the teacher have a particularly role to play which according to Carlson and Gadio (2002) , teacher are the key to whether technology is used appropriately and effectively, for without sound capacity building, the financial resources spent on building infrastructure will be

waste less effort and OTM curriculum objectives will not be attained. That is why NBTE (2004) allotted 75% credit hour to practical exercise, which implies that teachers are expected to extensively utilize these ICT facilities to ensure adequate preparation of the students in favour of ICT operations.

Similarly, gender and location of institution can be a strong determining factor or have strong influence on the teacher level of ICT literacy, their opinion on ICT availability and extent of use (Yuen & Ma, 2004; Sinha, 2009). Ways of determining the effectiveness of any programme involves the appraisal of the programme available instructional resources and utilization of the resources for instructional delivery. And the fact that office technology and management programme has lasted for more than six years demands that the programme should be appraised to determine its effectiveness. That is why the researchers are carrying out appraisal of the level of availability and utilization of information and communication technology in teaching office technology and management courses in polytechnics of south east states in Nigeria.

#### **Statement of Problem**

The introduction of office technology and management programme with emphasis on information and communication technology applications in instruction was intended to prepare competent OTM graduates who would function effectively in information technology based organizations and institutions.

However, indications emerging from the world of works seem to indicate that the ND and HND graduates do not seem to show adequate competency in information and communication applications in their place of work. This raises the question as to the level of availability and utilization of ICT applications for instruction in Nigerian polytechnics, with particular reference to the south east of Nigeria. Essentially, the researcher are interested in establishing the level of availability and utilization of ICT applications for instructional purpose in polytechnics in the south eastern state of Nigeria.

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

The purpose of the study was to ascertain level of ICT application and utilization in teaching OTM courses in the South-eastern states polytechnics in Nigeria. Specifically, the study sought to:

1. Ascertain the availability of ICT facilities for instructional purpose in OTM courses.
2. Ascertain the extent to which lecturers in polytechnics in South-eastern Nigeria utilize computer facilities in teaching OTM courses.
3. Ascertain the extent to which lecturers in polytechnics in South-eastern Nigeria

utilize telecommunication facilities in teaching OTM courses.

4. Ascertain the extent to which lecturers in polytechnics in South-eastern Nigeria utilize multimedia facilities in teaching OTM courses.
5. Ascertain the extent to which lecturers in polytechnics in South-eastern Nigeria utilize internet facilities in teaching OTM courses.

#### **Research Questions**

The following research questions guided the study:

1. What is the level of availability of ICT facilities for teaching OTM courses in polytechnics of South-eastern Nigeria?
2. To what extent do OTM lecturers in polytechnics of south eastern Nigeria utilize computer facilities in teaching OTM courses?
3. To what extent do OTM lecturers in polytechnics of south eastern Nigeria utilize telecommunication facilities in teaching OTM courses?
4. To what extent do OTM lecturers in polytechnics of south eastern Nigeria utilize multimedia facilities in teaching OTM courses?
5. To what extent do OTM lecturers in polytechnics of south eastern Nigeria utilize internet facilities in teaching OTM courses?

#### **Null Hypotheses**

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

1. There is no significant difference in the mean rating of male and female OTM lecturers in polytechnics of south eastern Nigeria on extent of computer facilities utilization in teaching OTM courses.
2. There is no significant difference in the mean rating of OTM lecturers in urban and rural area in polytechnics of south eastern Nigeria on extent of telecommunication facilities utilization in teaching OTM courses.

#### **Significance of the Study**

The finding of the study should be of immense benefits especially to OTM lecturers, National Board for Technical Education, Business education curriculum planners at university level and other researchers. The findings of the study would be of benefit to OTM lecturers in south eastern polytechnics by exposing them to various categories of required ICT facilities. And this would enable OTM lecturers to make request to the appropriate bodies/ authorities responsible for provision of the ICT facilities not utilized. The outcome of the study would be of benefit to NBTE, by exposing them to the acquisition level of required ICT facilities. And

this will aid NBTE in denying accreditation to any school that does not meet up with the minimum ICT facilities requirement. The result of the study revealed ICT competencies/skills expected of OTM lecturers (which are part of business education graduates at universities). This will guide the curriculum planners to make necessary review towards enriching the ICT content of business education programed at university level. It would enable them to restructure most of OTM courses in such a way, that the course cannot be taught without the use of these facilities.

The study would contribute to current literature and other researchers, embarking on similar research on other aspect of ICT utilization like ICT competencies possessed by teachers, adequacy off ICT facilities in teaching, etc. the study can also be replicated by researchers in other geopolitical zones, in other to attest or challenge the findings of this study.

### **Scope of the Study**

The study was delimited to the level of availability of ICT facilities and the extent of utilization of computer, telecommunication, multimedia and internet facilities in teaching office technology and management. The scope of this study covers the polytechnics that offer OTM programme in the South-eastern states in Nigeria. The independent variables will be restricted to OTM lectures location of gender and institution. ICT competencies possessed by teachers, adequacy of ICT facilities, strategies for effective utilization of the ICT facilities will not be considered.

### **METHODOLOGY**

This study adopted a survey design as the most appropriate design because it is directed towards people, their opinions, attitude and behavior. The design is also appropriate because it is a design that a group of people are studied by collecting and analyzing data from such a group of people who are considered to be a representative of the population (Okwor, 2011). The study was conducted in south eastern zone of Nigeria, which will comprise Anambra, Enugu, Ebonyi, Imo and Abia state. South-eastern Nigeria is one of the six geopolitical zones in Nigeria mainly occupied by Igbo speaking Nigerian. South-east has boundries with south-south (Edo and Delta) in the east, south-south (Rivers and Akwa Ibom) in the south, north central (Kogi and Benue) in the north and south-south (Cross River) in the west .The choice of the area of the study was informed by high value and quest for education among the people of south eastern Nigeria. The population of the study consists of 88 office technology and management lecturers in the six institutions offering office technology and management programme in the South eastern polytechnics in

Nigeria. The institutions are Federal Polytechnic, Oko, Institute of Management and Technology Enugu, Our Savior Institute of Science, Agriculture and Technology Enugu, Federal Polytechnic Nekede, Abia State Polytechnic Aba and Federal Polytechnic Unwana. The entire population was used. The data for this study was collected through the use of questionnaire. The responses are structured on a five point Likert-type rating scale of Very High Extent, High Extent, Low Extent, Very Low Extent and Undecided for section A, B, C, D and E. To ascertain the validity of the research instrument two experts from department of Vocational Education, Nnamdi Azikiwe University, Awka and one expert from Office Technology and Management, Institute of Management and Technology, Enugu. The reliability of the research instrument was established through the use of spilt half method. The reliability coefficient was computed using the spearman Brown Prophecy Formula which yielded the score of 0.75, 0.82, 0.82, 0.76 and 0.88 for section A, B, C, D and E respectively. The researcher administered the copies of the questionnaire to the respondents with the help of research assistants. A total 88 copies of questionnaire were distributed and a total 70 copies were collected from the respondents. This shows that 80 percent return were made. The shortfall of 20 percent is insignificant and could not have any effect on the finding of the study. Any item with mean response of 3.5 and above was to be regarded as available / utilized, while item with mean response of 3.49 will be regarded as not available or utilized.

### **RESULTS**

#### **Research Question 1**

*What is the level of availability of ICT facilities for teaching OTM courses in polytechnics of South-eastern Nigeria?*

To answer research question 1, the mean and standard deviation were computed from the frequency distribution. The result or the computation is shown in Table 1

Table 1: Respondents' Mean Rating on ICT Availability

(N =70)				
S/N	ICT Availability	Mean	SD	Remark
1	Computer	4.20	0.72	High extent
2	USB/Memory cards	3.51	0.82	High extent
3	MS-Excel,Powerpoint			
	Database,Publisher,Word	4.06	0.74	High extent
4	Printer	3.81	0.81	High extent
5	Computer speaker	3.52	1.02	High extent
6	Light pen/joy stick	2.19	0.84	Very low extent
7	CD ROM	3.23	0.79	Low extent
8	Phone	4.14	0.72	High extent
9	Radio	3.60	0.93	High extent
10	Television	3.57	0.95	High extent
11	Fax machine	2.67	1.05	Low extent
12	Projector	2.91	0.95	Low extent
13	Bulletin Board System	2..14	0.93	Low extent
14	Web camera	2.57	0.83	Low extent
15	Network card	2.97	0.96	Low extent
16	Modem	3.36	1.08	Low extent
17	Router	2.97	0.96	Low extent
18	Satellite dish			Low extent
		2.89	0.88	
		<b>3.18</b>	<b>0.88</b>	<b>Low extent</b>

The data in Table 1 relate to the extent of available ICT facilities used in teaching OTM in polytechnic of South-eastern Nigeria. The results show that 8 items of ICT facilities were available at low extent; two were available at very low extent while eight were available at high extent. Computer, USB memories, MS applications, printer computer speaker, radio, television and mobile phone were available at high extent. CD ROM, fax machine, projector, modem, router, satellite dish and web camera were available at low extent. Light pen and Bulletin Board System were available at very low extent. The grand mean of 3.18 shows that ICT facilities for teaching OTM

courses are available at low extent. Standard deviation ranging from 0.72-1.09, show disparity in the opinion of OTM lecturers on the extent of ICT facilities availability.

**Research Question 2**

*To what extent do polytechnics OTM lecturers utilize computer facilities in teaching OTM courses?*

To answer research question 2, the mean and standard deviation were computed from the frequency distribution. The result or the computation is shown in table 2.

Table 2: Respondents' Mean Rating on Computer Facilities

(N =70)				
S/N	Computer Facilities	Mean	SD	Remark
19	Computer	4.20	0.72	High extent
20	Word processing	4.06	0.74	High extent
21	Spread sheet	3.37	0.84	Low extent
22	Microsoft PowerPoint	2.94	0.89	Low extent
23	Microsoft Access	2.34	0.98	Very low extent
24	USB/Memory cards	3.51	0.82	High extent
25	CD ROM	3.23	0.79	Low extent
26	Coral Draw	2.83	0.84	Low extent
27	Page Maker	3.24	1.40	Low extent
28	Desktop Publisher	3.5	0.89	High extent
29	Webpage Design	2.97	0.97	Low extent
30	Printer	3.81	0.80	High extent
31	Scanner	3.14	1.22	Low extent
32	Light Pen/ Joy Stick	2.19	0.84	Very low extent
33	Computer speaker	3.52	1.02	High extent
34	Keyboarding Tutor	3.26	1.07	Low extent
35	Keyboard	3.87	0.87	High extent
		<b>3.29</b>	<b>0.92</b>	<b>Low extent</b>

The data in the Table 2 relate the extent polytechnic OTM lecturers in south eastern Nigeria on utilization

of computer facilities in teaching. The result showed low extent of OTM lecturers' utilization of 8 out of

17 computer facilities listed. Computer and word processing has highest mean score, followed by keyboard, printer, computer speaker, memory card and desktop publisher. Hence, these showed high extent of utilization of these computer facilities. Spread sheet followed by keyboard tutor, page maker, scanner, web page design, power point and coral draw, are utilized at low extent. Light pen and Microsoft access are utilized at very low extent. The grand mean of 3.29 indicate that respondent utilize computer facilities at low extent in teaching. The standard deviation ranging from 0.72-1.22 showed that the respondents were not homogeneous in their

opinions on the extent of computer facilities utilization in teaching OTM courses.

**Research Question 3**

*To what extent do polytechnics OTM lecturers utilize telecommunication facilities in teaching OTM courses?*

To answer research question 3, the mean and standard deviation were computed from the frequency distribution. The result or the computation is shown in table 3.

Table 3: Respondents’ Mean Rating on Telecommunication Facilities

(N =70)				
S/N	Telecommunication Facilities	Mean	SD	Remark
36	Telephone	3.54	1.09	High extent
37	Mobile phone	4.14	0.72	High extent
38	Short message services (SMS)	3.66	0.95	High extent
39	Voice message	3.1	0.94	Low extent
40	Telephone conferencing	2.61	0.87	Low extent
41	Radio	3.60	0.93	High extent
42	Telephone multimedia services	2.94	0.84	Low extent
43	Fax machine	2.67	1.05	Low extent
44	Telex machine	2.36	0.91	Very Low extent
45	Television	3.57	0.95	High extent
		<b>3.22</b>	<b>0.92</b>	<b>Low extent</b>

Data in the Table 3 show that the respondents utilize four out of ten telecommunication facilities at low extent. Mobile phone, short message facilities, radio, television and telephone are utilized at high extent. Voice message, telephone multi-media facilities, fax machines, telephone conferencing are utilized at low extent. Telex machines were utilized at very low extent by the respondents. The grand mean of 3.22 showed that the respondents utilize telecommunication facilities at low extent in teaching. Standard deviation ranging from 0.72 to

1.09 indicate that the respondent were not homogeneous in their opinion on extent of telecommunication facilities utilization.

**Research Question 4**

*To what extent do polytechnics OTM lecturers utilize multimedia facilities in teaching OTM courses?*

To answer research question 4, the mean and standard deviation were computed from the frequency distribution. The result or the computation is shown in Table 4

Table 4: Respondents’ Mean Rating on Multimedia Facilities

(N =70)				
S/N	Multimedia Facilities	Mean	SD	Remark
46	Interactive whiteboard	2.97	1.19	Low extent Low extent
47	Visual compact disc (VCD)	3.2	0.88	
48	Multimedia projector	2.91	0.95	Low extent
49	Digital camera	2.74	0.91	Low extent
50	Interactive compact disc	2.76	0.93	Low extent
51	Digital video	3.00	0.84	Low extent
52	Slide	2.94	0.92	Low extent
53	Bulletin board system	2.14	0.93	Very Low extent
54	Satellite dish	2.89	0.88	Low extent
55	Videoconferencing	1.94	0.75	Very Low extent
		<b>2.75</b>	<b>0.92</b>	<b>Low extent</b>

Data in Table 4, show low of utilization of eight multimedia facilities and very low extent of utilization of two multimedia facilities. Visual compact disc and digital versatile/video disc has the highest mean score followed by interactive whiteboard, slide , multimedia projector, satellite

dish, interactive compact disc, digital camera are utilized at low extent. Bulletin Board System and Video conferencing are utilized at very low extent and this could be attributed to lack of awareness of the uses among the respondents. The grand mean of

2.75 indicate that the respondents utilize multimedia facilities at low extent in teaching.

**Research Question 5**

*To what extent do polytechnics OTM lecturers utilize internet facilities in teaching OTM courses?*

To answer research question 5, the mean and standard deviation were computed from the frequency distribution. The result or the computation is shown in Table 5

Table 5: Respondents' Mean Rating on Internet Facilities

N=70)				
S/N	Internet Facilities	Mean	SD	Remark
56	World wide web (WWW)	3.69	0.99	High extent
57	E-mail	3.50	1.04	High extent
58	Web camera	2.57	0.83	Low extent
59	Modem	3.36	1.08	Low extent
60	Router	2.97	0.96	Low extent
61	Network card	2.97	0.96	Low extent
62	Online video / YouTube	2.84	0.90	Low extent
63	Search engines e.g Google,	3.56	1.05	High extent
64	File tube	2.24	0.93	Very low extent
65	Chartrooms e.g. Facebook,2go,	3.51	0.96	High extent
		<b>3.34</b>	<b>0.92</b>	<b>Low extent</b>

Table 5, show that World Wide Web, electronic mail, search engines and chartrooms are utilized at high extent by OTM lecturers in south eastern Nigerian. Modem, Network card, router, online video/you tube, and web camera are utilized at low extent. File tube were utilized at very low extent by OTM lecturers in south eastern Nigeria. The grand mean of 3.34 also indicate low extent of utilization of internet facilities by OTM lecturers.

**Hypotheses 1**

*There is no significant difference in the mean rating of male and female OTM lecturers in polytechnics of south eastern Nigeria on extent of computer facilities utilization in teaching OTM courses.*

To test the first hypothesis, the means for the two groups were computed to obtain the t-values at 0.05 level of significance. The result of the computation is shown in Table 6.

Table 6: t-test Result of the Difference Between the Mean Ratings of Male and Female Polytechnic OTM lecturers on their Extent of Computer Facilities Utilization in Teaching OTM Courses.

Gender	N	X	S	t-cal	α	Df	t-crit	Remark
Male	30	3.38	0.79	0.82	0.05	68	1.96	Not rejected
Female	40	3.2	0.85					

As shown in Table 6, male and female polytechnic OTM lecturers in south-eastern Nigeria utilize computer facilities at low extent. The t-calculated value of 0.82 is less than the t-tabulated value of 1.96 at 68 degree of freedom and 0.05 level of significance and this suggests that there is no significant difference between the mean ratings of male and female polytechnic OTM lecturers on their extent of computer facilities utilization in teaching OTM courses. This therefore means that the null hypotheses were not rejected.

**Hypotheses 2**

*There is no significant difference in the mean rating of OTM lecturers in urban and rural area in polytechnics of south eastern Nigeria on extent of telecommunication facilities utilization in teaching OTM courses.*

To test the hypotheses, the means for the two groups were computed to obtain the t-values at a 0.05 level of significance. The result of the computation is shown in Table 7.

Table 7: t-test Result of the Difference Between the Mean Ratings of Polytechnic OTM lecturers in Rural and Urban Area on their Extent of Telecommunication Facilities Utilization in teaching OTM Courses.

Area of Location	N	X	SD	t-cal	α	Df	t-crit	Remark
OTM Lecturers in Urban Area Polytechnics	45	2.88	1.16	2.4	0.05	68	1.96	Not rejected
OTM Lecturers in Rural Area Polytechnic	25	3.44	0.81					

The data in table 7 indicates that the calculated t-value is (2.4) and the critical value is (1.96) at 68 degree of freedom and 0.05 level of significance suggest that there is a significant difference in the mean rating of polytechnic OTM lecturers in rural and urban location on the extent of

telecommunication facilities utilization in teaching OTM courses. Therefore the null hypothesis was rejected.

## **DISCUSSION OF FINDINGS**

### ***Availability of ICT facilities***

The result of the analysis on the availability level of ICT facilities in teaching OTM courses in polytechnic of south-eastern states in Nigeria, show that ICT facilities are available at low extent. The findings are in accordance with Onyemelukwe (2005) who found that polytechnic lecturers show dissatisfaction on the level of ICT equipment available in polytechnic. This is because effective implementation of Polytechnic programme lies heavily on the available information and communication technology. In accordance with this, Ugwuanyi and Eze (2008) argue that educational resources for administration of secretarial studies programme at polytechnic are not adequately provided. When these facilities are not available or adequately available compared with the student ratio, the programme will be ineffectively implemented. In view of this, Baba and Akaraha (2012) asserts that to ensure optimum and effective teaching and learning of OTM courses, OTM department are expected to be adequately and sufficiently equipped with requisite ICT instructional materials. Hence, provision of ICT facilities is paramount in achieving the programme objectives.

### ***Computer facilities***

The result of the analysis of computer facilities utilization as shown in Table 2 indicates that polytechnic OTM lectures utilize computer facilities in teaching at low extent. This indicates that OTM graduates will lack the necessary competencies required for manipulations of these facilities after graduation, because they are not exposed to the facilities by their teachers. The finding is in line with Ugwuanyi and Eze (2008) and Amoor (2009) that secretarial students graduates who are the pivot of office information and communication system seems not to be receiving adequate instruction from their lecturers. Amoor (2009) held that they do not possess the basic skill required to utilize computer operating system like database, PowerPoint etc. Those secretarial graduates who may boast of having these skills may have gone extra miles to learn from computer centers. The responses that OTM lecturers rarely utilize power point webpage, CD Rom etc, is in accordance with Iweh and Ufot (2012) who held that business educators do not use PowerPoint, lacks knowledge of data and cannot analyze or generate result with appropriate softwares (Excel and database). These deficiencies agree with Ezenwafor (2012) who found that business education graduates are not adequately exposed to the utilization of softwares. Omeje (2009) opinioned that business educators should therefore be expected to demonstrate full competence, knowledge and be adequately prepared to impact computer operation

skills to beneficiary who are trained for the world of works.

### ***Telecommunication Facilities***

With respect to the finding of the research question 3, table 3 revealed that respondents utilize telecommunication facilities at low extent, with grand mean of 3.22. The findings agree with Baba and Akaraha (2012) that facsimile, telex machine, fax machines required for administration of OTM programmes at polytechnics are not adequate. When facilities are somewhat inadequate, effective utilization cannot be made. This is also in line with the findings of Ezenwafor (2012) that graduates of educational institutional do not perform well in their work place because they are not well exposed to these facilities during training, as such they do not possess ICT skills demanded of them. ICT telecommunication facilities when utilized properly, support and promote acquisition of skills and knowledge that will empower student for life long learning and employability. This is in line with Amoor (2009) that fax machine, telex, telephone, radio are relevant to secretarial education training in tertiary institutions because the program has a lot to do with modern officer equipment. Omeje (2009) affirms this in the findings that telecommunication technology skills are much required by business educations in order to have adequate preparation to impact the knowledge to the student.

### ***Multimedia Facilities***

The analysis of multimedia facilities on table 4 showed that polytechnic OTM lecturers in south east states utilize multimedia facilities in teaching OTM courses at low extent, out of ten facilities listed; eight were utilized at low extent while two were utilized at very low extent in teaching of OTM courses. A grand mean of 2.75 further confirmed the low extent of utilization of multimedia facilities among OTM lecturers. The reason could be as a result of continuous use of traditional method of instructional delivery by OTM lecturers or limited confidence/incompetencies on how to use them. The findings is in accordance with the view of Iweh and Ufot (2012), who found that teachers do not use projectors, electronic media such as slides videoconferencing during their lectures. Despite the numerous benefits of using multimedia as previously enumerated by Okwor (2011), Onasanya et al (2010) held that most teachers in tertiary institutions possessed inadequate pedagogy for utilization of multimedia facilities for classroom instruction.

However general computer and word-processing knowledge are not sufficient to prepare OTM

lecturers to utilize ICT facilities in the classroom. Hence there is need for re-training of OTM lecturers in accordance with recent modern multimedia facilities.

### ***Internet Facilities***

The findings of the study in Table 5 revealed that OTM lecturers utilize internet facilities in teaching OTM courses at low extent with grand mean of 3.34. The data collected showed that World Wide Web, E-mail search engines and chartrooms are utilized at high extent. The responses of the respondents on World Wide Web, search engines is in line with the finding of Iweh and Ufot (2012) and Ezenwafor (2012) that business educator has been exposed to new area of internet with resources for research and publications. The finding that the respondents utilize internet facilities at low extent in teaching agrees with Okwor (2011) that many teacher are not still utilizing internet for searching information and instructional material for the students. The role of internet cannot be over emphasized. Ololube, Udogu and Ossia (2006) concord with the above statement by pointing out that internet has the potential to increase student confidence and enable them to access learning experiences anywhere, anytime. To further buttress this point Onasanya et al (2010) held that internet support teaching methodology especially for group assignments, posting of research works, books, journals references list, online material and opportunities for scholars to communicate with one another. Thus every OTM lecturer needs to have the knowledge and skills of using internet facilities, so as to be able to teach with it effectively.

### ***Hypotheses 1***

The result of the analysis in Table 6 which indicate that there is no significant difference in the mean rating of male and female OTM lecturers on the extent of computer facilities utilization, agree with Onyemelukwe (2005) who held that digital divide usually noticed in gender analysis relating to ICT studies in other parts of the world is absent in Nigeria. Ezenwafor (2012) further affirmed this in her findings, that the exposure of student in manipulating and utilizing ICT and software showed no significant difference. This implies that OTM lectures utilize computer facilities in teaching at low extent irrespective of gender. Therefore the null hypotheses was not rejected.

### ***Hypotheses 2***

The results of the analysis in Table 7 indicated that OTM teachers in urban and rural polytechnics differ significantly in their mean ratings on the extent of telecommunication facilities utilization in teaching OTM courses. Therefore the null hypotheses that

there is no significant difference in the mean rating of OTM lecturers in urban and rural area polytechnics on the extent of telecommunication facilities utilization was rejected. The findings affirmed the research carried out by Yuen and Ma (2004); Sinha (2009) institutional location can be a strong determining factor of level of ICT usage.

### **CONCLUSION**

Based on the result of the findings it could be concluded that ICT for implementation of OTM programme in polytechnic of south eastern states in Nigeria are available and utilized at low extent. It was also concluded that that gender do not affect OTM lecturers on the extent of computer facilities utilization, while institutional location affects the opinion of OTM lecturers on the extent of telecommunication facilities. Hence, there is need for adequate provision and effective utilization of these facilities, to ensure the achievement of the programme objectives.

### **RECOMMENDATION**

Based on the findings of this study, the following recommendations were made.

1. There should be frequency of training and retraining programmes in ICT (Database Management, Microsoft Excel, Webpage design, PowerPoint, Multimedia Projector, Videoconferencing, Fax machines, Telex machines, You-tube,) for OTM teacher, in order to ensure effective utilization of these facilities.
2. NBTE should set utilization standard of these ICT facilities in teaching ,in order to check mate the competency level of OTM lecturers in teaching with these facilities.
3. Business teacher programme at university level should be restructured in line with ICT needs of employers of business education graduate which polytechnic OTM department is one.
4. Competencies in ICT should be one of the major criteria for recruitment of OTM lecturers.
5. To enhance the access of the teachers and students to ICT utilization as well as improve it, polytechnic administrators should collaborate with private partners to put in place modalities to enable teachers and undergraduates, by provision of ICT centers like Afri-Hub for effective implementation of OTM prgoramme

### **Limitation of the Study**

The major limitation of the study is confinement of the study to south eastern Nigeria alone, out of six geopolitical zones in Nigeria, as a result of financial and time constraints. The researcher would have wanted to know what is applicable in

other zones. Hence, polytechnic in south eastern Nigeria would be considered applicable to other zones but with caution.

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