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IMPROVING QUALITY OF PEDAGOGY/INSTRUCTIONAL PRACTICES IN OFFICE TECHNOLOGY AND MANAGEMENT PROGRAMME IN POLYTECHNICS IN DELTA STATE NIGERIA FOR SUSTAINABLE GROWTH, SECURITY AND DEVELOPMENT

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ABSTRACT: *The study is on improving quality of pedagogy/instructional practices in Office Technology and Management (OTM) programme in polytechnics in Delta State Nigeria for sustainable growth, security and development. In this study, the researchers raised four research questions and two formulated hypotheses. Literature was reviewed. The design for this study was a survey where a structured questionnaire was prepared and used for collection of data. The study was conducted in the three (3) polytechnics in Delta State and 45 OTM lecturers were sampled for the study. The instrument used was validated by three lecturers drawn from the three polytechnics. The data collected were analyzed using mean and standard deviation. The study revealed that the objectives of OTM were achievable and that OTM courses taught were in line with the 2008 NBTE minimum guidelines: that lecturers selected and used new technologies in line with the topics they teach and that lecturers selected appropriate instructional strategies in line with the topics and the teaching aids. The conclusions drawn are that lecturers should be familiar with any change(s) as a result of periodic curriculum review and constant influx of new technologies in education. On the basis of this, the researchers made useful recommendations aimed at making the teaching and learning of OTM courses most interesting and practically oriented to the learners.*

KEY WORDS*:* education, office technology and management, pedagogy, quality and sustainable development.

INTRODUCTION

Education system in Nigeria and all over the world is broadly structured into elementary/primary, secondary and tertiary institution. The tertiary institutions, according to Okute and Agomuo (2010) are third tier of learning which provide training in an ever-increasing number of specialization

necessary for the modern society. It is a stage of education and learning at the higher level (Jaja, 2013).Tertiary institutions are established and charged with the mandate of providing knowledge, skills and training to students who have successfully completed their secondary education and desirous of pursuing a chosen discipline for future career through education of higher learning. The Federal Republic of Nigeria (2014) described tertiary institution to include colleges of education, universities, monotechnics and polytechnics.

Polytechnic education is a form of tertiary education that inculcates vocational and technical skills into the recipients (Ojetokun and Omale, 2010). According to Adekunle (2016), polytechnic education ensures training of skilled manpower needed to drive the economy. It is a vocational and occupational system of education designed to give training and impact the necessary skills for the production of craftsmen, technicians, technologists, applied scientists, and skilled personnel who shall be enterprising and self-reliant (National Board for Technical Education, [NBTE], 2006). The National Board for Technical Education (NBTE) is the agency vested with the responsibility for quality control in Polytechnic programmes throughout the federation of Nigeria. Okoro (2016), the polytechnic full programme has a mandatory five-year course. Two year "National Diploma (ND)" which is followed by one – year compulsory 'Industrial Training' which is a pre-requisite for the two – year 'Higher National Diploma (HND)'. The Federal Republic of Nigeria (2014) highlighted the specific goals of polytechnics to include: (i) provision of full-time or part-time courses of instruction and training in engineering, other technologies, applied science, business and management, leading to the production of trained manpower; (ii) provision of technical knowledge and skills necessary for agricultural industrial, commercial, and economic development of Nigeria, (iii) give training and impact the necessary skills for the production of technicians, technologists and other skilled personnel who shall be enterprising and self-reliant; (iv) train people who can apply scientific knowledge to solve environmental problems for the convenience of man and; and (v) give exposure on professional studies in the technologies. One of the major disciplines in polytechnics where learners are trained in modern technologies is Office Technology and Management (OTM).

Office Technology and Management (OTM) is an efficient, effective productive and functional education, which leads itself to self-employment, self-reliance, paid-employment, and consequently self-actualization (Okoro and Amagoh, 2008). According to Esene (2001), OTM by its nature, scope and contents, helps the recipients of the course programme to acquire relevant knowledge and skills for self-development and self-reliant. Ifejika (2015) stated that Office Technology and Management (OTM) formerly referred to as Secretarial Studies in Nigeria evolved out of a need to meet the technological and managerial demands of today's workplace. Okwuanaso and Obayi (2006) noted that OTM is an example of restructuring process of secretarial studies in polytechnics where the students are exposed to the acquisition of vocational skills in office and technology management as well as enterprise. OTM programme is designed to equip secretarial and office students to acquire vocational skills in Office Technology, Management and socio-psychological work skills for employment in various fields of endeavour (NBTE 2006). In

affirmation, Olawole and Abuya (2011) stated that instructions in OTM prepare and make students of secretarial studies competent, skillful and employable in the contemporary world of work, which is being driven by technological content in the curriculum of erstwhile secretarial studies programme. To guarantee achievement of the objectives of OTM programme in Nigerian polytechnics, quality of the pedagogy and instructional practices are very essential and must be ensured.

Pedagogy is the processes and practices of classroom instruction that encompasses educational purposes and aims of communicating contents of courses and subjects to students. Monoranjan, Bharati and Jayasri (2013) viewed pedagogy as the art and science of teaching and instructional practices. Quality classroom instruction is defined as pedagogical practices that facilitate for diverse learners' access to knowledge, activities and opportunities to advance their skills in ways that build on previous learning, assist in learning how to learn and provide a strong foundation for further learning in relation to the goals of the curriculum (Farquhar, 2003). Effective teachers use an array of teaching strategies because there is no single, universal approach that suits all situations. Child Australia (2019) shared that pedagogy is an encompassing term concerned with what a teacher does to influence learning in others. Instructional practices or pedagogy involve the incorporation of an array of teaching strategies that support intellectual engagement, connectedness to the wider world, supportive classroom environments and recognition of difference, should be implemented across all key learning, and subject areas.

Quality instructional practice promotes the wellbeing of students, teachers and the school community. It improves students' and teachers' confidence and contributes to their sense of purpose for being at school; it builds community confidence in the quality of learning and teaching in the school (Monoranjan, Bharati and Jayasri, 2013). The report of Child Australia(2019) revealed that several research effort on teaching, learning and outcomes confirmed that quality pedagogy or instruction is identified as a key lever for improving learners' outcomes. In affirmation, Monoranjan, Bharati and Jayasri (2013) noted that pedagogy and instructional practice connote master plan that includes a details of what is to be done by a teacher, the instructional strategies, instructional equipments and the cardinal objectives of instruction with the selection of appropriate instructional materials and facilities.Amadioha (2009) stated that instructional materials are alternative channels of communication which a classroom teacher can use to concretize a concept during teaching and learning process. Instructional materials therefore constitute the media of exchange through which a message transaction is facilitated between the teacher and the learners. As reported by Awolaju(2016), the search for efficient and effective delivery of instruction to students has always been major concern of stakeholders in Nigerian education system. This is because, instructional practices in Nigerian schools at all levels have always been challenged to be ineffective due to low quality of pedagogical and instructional practices. This applies to the teaching and learning of all discipline including that of Office Technology and Management (OTM). Hence, this study was carried out to examine the improvement of quality of pedagogy/instructional practices in Office Technology and Management programme in

Polytechnics in Delta State Nigeria for sustainable growth, security and development using Delta State as case study.

LITERATURE REVIEW

Office Technology and Management

In response to advancement in technology, the nomenclature 'Secretarial Studies, have been changed to Office Technology and Management (OTM). Office technology and management, according to Eneche and Audu (2014), is the planning, organizing, directing and controlling of office activities to ensure that various resources (human and materials) are put into optimal utilization so as to achieve the aim of the organization. Omoniyi and Elemure (2014) viewed Office Technology and Management is a new academic programme in Nigerian tertiary institutions designed to replace the secretarial studies programme. The need to prepare and make students of secretarial studies competent, skillful and employable in the world of work, which is being driven by technological content in the curriculum of erstwhile secretarial studies programme in the nation's tertiary institutions, gave birth to Office Technology and Management. Sharing a similar view, Ifejika (2015) stated that Office Technology and Management (OTM) formerly referred to as Secretarial Studies in Nigeria evolved out of a need to meet the technological and managerial demands of today's workplace.

Office Technology and Management (OTM) programme is an example of restructuring process in polytechnics where the students are exposed to the acquisition of vocational skills in office and technology management as well as enterprise (Okwuanaso and Obayi, 2006). The OTM programme is designed to equip secretarial and office graduates with practical, professional, entrepreneurial/vocational and socio-psychological work skills for employment in various fields of endeavour (Okoro, 2010). OTM is a programme that plays a major role in the building of economic base of the nation towards self-reliance as entrepreneurial opportunities exist therein (Ezeh, 2011). For the OTM graduates to be effective in today's' work environment, it became imperative for tertiary institutions like the polytechnics to recognize these changes and reverse their curriculum to contain these new knowledge and skills. Omoniyi and Elemure (2014) noted that the new OTM programme incorporates the following six components in its design; Office Application, Office Technology, Business and Administrative Management, Numeric Component, General Studies and Students Industrial Work Experience Scheme (SIWES).

Higher education needs to be transformed due to the rapid changes in technology (Uperaft and Goldsmith, 2000).In line with the above claim, Esene, (2011) acknowledged that the NBTE new OTM curriculum is meant to remedy the shortcomings inherent in the old secretarial studies curriculum. Hence, Office Technology and Management (OTM) programme was recently designed by the National Board for Technical Education in conjunction with UNESCO (2004) to replace the secretarial studies programme. On issue of self-development, Akinola in Esene (2011), noted that it was the desire for self-development coupled with the high rate of unemployment in

the country today, that is forcing school leavers to look to themselves rather than to the government for a means of making a living, and OTM graduates are not left out in the drive for self-reliance. To buttress this point, a research studies conducted by Agomuo, (2007), shows that OTM graduates have been so enterprising as to set up secretarial/business institutes, employment bureaus which liaise with employers and link job-seekers with available suitable openings and more recently, information and communication centres.

The National Board for Technical Education (NBTE) in collaboration with UNESCO/ILO, (2004), evolved a new programme tagged Office Technology and Management (OTM) to end the long debate on replacing the secretarial studies programme which has been in place since the inception of the Nigerian polytechnic system. A new course specification and curriculum was development for OTM which has two year each for both the National Diploma (ND) and Higher National Diploma (HND) (NBTE, 2004). The new Office Technology and Management (OTM) programme according to Ezeh (2011) amidst numerous changes is loaded with several courses in Information and Communication Technology (ICT) alongside these other professional courses. Okoro (2010) noted that the new programme definitely demands new skills and competences if the objectives of VTE/Business education as enshrined in the National Policy on Education will perform as desired. OTM courses of Polytechnics are designed to equip graduates with the knowledge and skills required to meet the dynamic nature of the ever changing nature of the world of work. OTM students of Polytechnic must of necessity acquire the knowledge and have the ability and skills if they are to remain relevant in the society they live in. Peter (2011) submitted that the functionality of OTM graduates depend to a large extent, on the acquisition of these requisite skills update wherever they find themselves, whether in paid employment or self-employment.

Purpose of the Study

The broad purpose of this study was to investigate measure of improving quality pedagogy/instructional practices in Office Technology and Management programme in Delta State polytechnics for sustainable growth, security and development. Specifically, the study:

1. Assessed of how achievable are objectives of OTM programme in the polytechnics.
2. Assessed of whether OTM courses in these polytechnics are taught in line with the 2008 NBTE minimum guidelines.
3. Determined practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in the polytechnics.
4. Identified appropriate pedagogy/instructional strategies for quality OTM instruction in the polytechnics.

Research Questions

In line with the specific purposes of the study, the following research questions were answered:

1. How achievable are objectives of OTM programme in the polytechnics?
2. Are Office Technology and Management (OTM) courses in the polytechnics taught in line with the 2008 NBTE minimum guidelines?

3. What are the practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics?
4. What are the appropriate pedagogy/instructional strategies for quality OTM instruction in the polytechnics?

Research Hypotheses

$H0_1$: There is no significant difference in the mean ratings of male and female OTM lecturers on practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics.

$H0_2$: There is no significant difference in the mean ratings of male and female OTM lecturers on the appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics.

METHODS

The study was conducted in Delta State, south-south Nigeria. Delta State is made up of 25 Local Government Areas with its administrative headquarters in Asaba. Four research questions were answered while two hypotheses were tested by the study at 0.05 level of significance. The study was carried out adopting descriptive survey research design. Descriptive survey research according to Ponto (2015) is a research design that uses quantitative research strategies using questionnaire with numerically rated items, qualitative research strategies using open-ended questions, or both strategies for data collection. According to Rouse (2019), survey research design is the collection of data attained by asking individuals questions either in person, on paper, by phone or online using questionnaire through primary research which is the gathering of first-hand data from its source. In this study therefore, structured questionnaire was developed and administered to Technical and Vocational Education lecturers who constituted the respondents for the study.

The population for the study was 45 Office Technology and Management (OTM) lecturers from three polytechnics in Delta State Nigeria which are: (i) Delta State Polytechnic Ogwashi-Uku, (ii) Delta State Polytechnic Otefe-Oghara and (iii) Delta State Polytechnic, Ozoro. Due to the manageable size of the population, the entire 45 OTM lecturers were involved as respondents for the study hence, there was no sampling. The instrument for data collection was a well structured item questionnaire developed by the researchers. The instrument was structured into four sections in line with the four specific purposes. Section I focused on determining if the objectives of OTM programmeare achievable in the polytechnics. Section II was made to ascertain if the (OTM) courses in polytechnics are taught in line with the 2008 NBTE minimum guidelines. Section III of the instrument was structured to obtain data on practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction while Section IV was made to elicit data on appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics. The response options for sections I and II was dichotomous (Yes or No) which the response options for sections II and III were 4-point rating scale of Strongly Agreed (4), Agreed (3), Disagreed (2) and Strongly Disagreed (1).

The questionnaire was face and content-validated by three OTM Lecturers from the three polytechnics in Delta State. Each of the experts was given a copy of the questionnaire items and was requested to indicate any ambiguous statement or item in the instrument. All the comments raised by the experts were duly addressed to improve the final copy of the questionnaires used for data collection. The reliability of the instrument was carried out by trial-testing 15 copies of the validated questionnaire on 15 OTM Lecturers in Anambra State. Data collected for the reliability were analyzed using Cronbach Alpha reliability method which yielded a reliability coefficient of 0.87.

Data collection for the study was carried out using personal contact approach with the help of three research assistants from the three polytechnics. Due to careful monitoring of the data collection exercise, the entire 45 copies of the questionnaire administered were completely filled and returned representing 100% return rate. Data for the study were analyzed using frequency, percentages and mean for answering the research questions while and t-test statistic was used for testing the two hypotheses at 0.05 level of significance. In taking decision on research questions one and two, items with percentage values greater than 50% were interpreted as positive while those items with percentage value of less than 50% were interpreted as negative. On research questions three and four, a cut-off point value of 2.50 was used as benchmark on 4-point rating scale. Therefore, items with mean values of 2.50 or above were interpreted as 'Agreed' while a mean value below 2.50 was interpreted as 'Disagreed'. The hypothesis of no significant difference was accepted for item cluster whose p-value value was greater than 0.05 level of significance while the hypothesis of no significant difference was rejected for item cluster whose p-value value was less than 0.05 level of significance.

RESULTS

Research Question One

How achievable are objectives of OTM programme in the polytechnics?
Data for answering research question one are presented in Table 1 below.

Table 1: Frequency and Percentage Distribution of How Achievable are Objectives of OTM Programmesin Polytechnicsin Delta State (n = 45)

SN	Objectives of OTM programmes	Frequency	Perct (%)
1	Equipping students with secretarial/office skills for employment	40	88.89
2	Equipping students with effective work competencies and socio-psychological work skills	28	62.22
3	Acquisition of secretarial skills to write in shorthand with a minimum of 95% accuracy	34	75.56
4	Type effectively various office jobs and acquire a coping rate of 40wpm on passages minimum of 95% accuracy	28	62.22
5	Making OND and HND graduate fit into the office of any computerized organization and perform professionally	39	86.67
6	Equipping graduates to functions in office to a whole organization	41	91.11
7	Equipping graduates to make accurate records of proceedings	37	82.22
8	Filing and retrieving information	42	93.33
9	Taking appropriate action independently when faced with challenging secretarial office problem	31	68.89
10	Showing personal qualities and attributes that are conducive and co-exist with secretarial group in modern office	34	75.56
11	Acquisition of general education and laying foundation for advanced studies	38	84.44
12	Creating general entrepreneurship awareness in the students	28	62.22

Note: * indicate multiple responses

The result in Table 1 above showed that the percentage values of the 12 items ranged between 62.22 – 93.33 which are all greater than the average of 50%. This implies that the 12 identified objectives of OTM programme in polytechnics are achievable as perceived by the responded.

Research Question Two

Are Office Technology and Management (OTM) courses in polytechnics taught in line with the 2008 NBTE minimum guidelines?

Data for answering research question two are presented in Table 2 below.

Table 2: Frequency and Percentage Distribution of Teaching OTMin line with NBTE Minimum GuidelinesPolytechnicsin Delta State (n = 45)

SN	Teaching OTM in line with guidelines	Frequency	Percentage (%)
1	Well equipped typing laboratories	32	71.11
2	Well equipped computer laboratories	25	55.56
3	Well equipped shorthand speed development laboratories.	21	86.67
4	Well equipped office practice room	22	48.89
5	Functional resource/business centre	24	53.33
6	Functional Model Office	30	66.67
7	Well equipped audio-visual centre	21	46.66
8	Adequate staffing for OTM	42	93.33
9	Adequate core teaching staff for OTM	39	86.67

Note: * indicate multiple responses

The result in Table 2 revealed that the percentage values of 7out of the 9 items ranged between 55.56 – 93.33 which are greater than the average of 50%. This indicated that the 7 identified items signified areas in which Office Technology and Management (OTM) courses in polytechnics are taught in line with the 2008 NBTE minimum guidelines. On the other hand, the percentage values of the remaining two items 4 and 7 are 48.89% and 46.66% which in each case are less than the average of 50%. This showed that the two items4 and 7 areas in which Office Technology and Management (OTM) courses in polytechnics are not taught in line with the 2008 NBTE minimum guidelines.

Research Question Three

What are the practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics?

Data for answering research question three are presented in Table 3 below.

Table 3: Mean Ratings of OTM Lecturers on Practices for Improving Pedagogy/Instructional Quality through the Use of New Technologies in OTM Instruction in Polytechnics (n = 45).

SN	New technologies for improving OTM instruction include:	$\bar{X}$	SD	Rmks
1	Utilization of video conference in OTM instruction by the lecturers	3.65	0.67	**A**
2	The use of audio visual such as power point/projector for instructional delivery in OTM.	3.64	0.50	**A**
3	Using suitable computer programmes and software to complement teaching in OTM.	3.73	0.45	**A**
4	Intensified use of mobile technologies such as smart phones, Laptops, Tablet (IPAD), MP3 players and E-book reader by OTM lecturers.	3.46	0.52	**A**
5	Using social medial platforms such as Facebook, Twitter, Whatsapp, and instagram for OTM instructional delivery.	3.38	0.48	**A**
6	Uploading OTM notes and instruction on YouTube for OTM students	3.59	0.52	**A**
7	Teaching students through the use of Skype to share OTM instruction with students.	3.62	0.49	**A**
8	Creating a perfect E-learning OTM instructional environment for effective service delivery in schools	3.48	0.50	**A**
9	Integrating the use of Computer Based Test (CBT) in OTM students' assessment and evaluation.	3.72	0.44	**A**
10	Integrating the use of Web Based Test (WBT) in OTM students' assessment and evaluation.	3.70	0.47	**A**
11	The use of simulation games forOTM instructional delivery to concerned students	3.46	0.51	**A**
12	Use of AUTOCAD forOTM instructional delivery to concerned students in polytechnics.	3.60	0.55	**A**
	Cluster Summary	**3.59**	**0.51**	**A**

Note*:* $\bar{X}$ **=** *Mean;* ***SD*** *= Standard Deviation;* ***A*** *= Agreed.*

The data presented in Table 3revealed that the mean ratings of the respondents on the 12 items in the table ranged from 3.38 – 3.73 which are all greater than the cut-off point value of 2.50 on 4-point ratings scale. This indicated that the 12 identified items in the table are the practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction

in Polytechnics in Delta State, Nigeria. The standard deviation values of the 12 items in the table ranged from 0.44 to 0.67 which indicates that the responses of the respondents are close to the mean and one another.

Hypothesis One ($H0_1$)

There is no significant difference in the mean ratings of male and female OTM lecturers on practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics.

The data for testing hypothesis one are presented in Table 4 below.

Table 4: Result of t-test of Statistics of the Significant Difference between the Mean Ratings of Male and Female OTM Lecturers on Practices for Improving Pedagogy/Instructional Quality Through the Use of New Technologies in OTM.

Variables	N	$\overline{X}$	SD	DF	Std. Error	t-cal	t-tab	P-value (Sig.)	Rmks
Male Lecturers	27	3.60	0.54						
				43	0.024	0.28	1.96	0.85	**NS**
Female Lecturers	18	3.58	0.57						

Note: NS = NotSignificant at 0.05.

The data presented on the t-test statistics in Table 4 showed that the p-value (sig.) of 0.85was greater than 0.05 level of significance. This suggests that there is no significant ($p<0.05$) difference between the mean ratings of the responses of male and female OTM lecturers on the practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics in Delta State.Hence, the null hypothesis of no significant ($p<0.05$) difference in the mean ratings of the responses of the two groups of respondents is accepted for hypothesis one.

Research Question Four

What are the appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics?

Data for answering research question four are presented in Table 5 below.

Table 5: Mean Ratings of OTM Lecturers on Appropriate Pedagogy/Instructional Strategies for Quality OTM Instruction in Polytechnics (n = 45).

SN	Appropriate instructional methods for teaching OTM include:	$\bar{X}$	SD	Rmks
1	Field trip/excursion to modern office with technologies to expose students to world of work.	3.75	0.45	**A**
2	Use of planned repetition in programme delivery in OTM instruction.	3.68	0.47	**A**
3	Use of questioning in programme delivery in teaching in OTM instruction.	3.52	0.62	**A**
4	Use of instructor-led-classroom delivery system during OTM instruction.	3.56	0.54	**A**
5	Demonstration method for verbal and practical illustration in OTM instruction.	3.44	0.49	**A**
6	Discussion method for active participation and interaction between the learner and the teacher during OTM instruction.	3.47	0.50	**A**
7	Lecture method for teaching a large number of students in OTM instruction.	3.56	0.49	**A**
8	Discovery methods that enables the learner to engage in mental activities during OTM instruction.	3.42	0.48	**A**
9	Role play that involves the learner acting a given role either as a group or as individual members of the group.	3.51	0.65	**A**
10	Project method that deals with real life situation OTM instruction.	3.56	0.51	**A**
11	Questioning method that involves the use of provocative answerable questions that leads to learners active participation.	3.50	0.54	**A**
12	Practical method involving practical activities in teaching and learning of OTM instruction.	3.46	0.51	**A**
13	Use of storytelling method in OTM instruction.	3.37	0.52	**A**
14	Use of resource persons from modern office to teach OTM to students of polytechnics.	3.58	0.72	**A**
15	Brain storming method in teaching OTM instruction to students.	3.40	0.51	**A**
16	The use of inquiry instructional strategy to teach OTM instruction.	3.49	0.50	**A**
17	Using of power point/projector for instructional delivery in OTM instruction.	3.56	0.48	**A**
18	Using internet as a means of instructional delivery in OTM instruction.	3.66	0.52	**A**
	Cluster Summary	**3.53**	**0.48**	**A**

Note: $\bar{X}$ **=** *Mean;* ***SD*** *= Standard Deviation;* ***A*** *= Agreed.*

The data presented in Table 5showed that the mean ratings of the respondents on the 18 items in the table ranged from 3.37 – 3.75 which are all greater than the cut-off point value of 2.50 on 4-point ratings scale. This indicated that the 18 identified items in the table are appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnicsin Delta State,

Nigeria. The standard deviation values of the 18 items in the table ranged from 0.45 to 0.72 which indicates that the responses of the respondents are close to the mean and one another.

Hypothesis Two ($H0_2$)
There is no significant difference in the mean ratings of male and female OTM lecturers on the appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics.
The data for testing hypothesis two are presented in Table 6 below.

Table 6: Result of t-test of Statistics of the Significant Difference between the Mean Ratings of Male and Female OTM Lecturers on Appropriate Pedagogy/Instructional Strategies for Quality OTM Instruction in Polytechnics.

Variables	N	$\overline{X}$	SD	DF	Std. Error	t-cal	t-tab	P-value (Sig.)	Rmks
Male Lecturers	27	3.56	0.49						
				43	0.029	0.33	1.96	0.64	**NS**
Female Lecturers	18	3.50	0.52						

Note: NS = Not Significant at 0.05.

The data presented on the t-test statistics in Table 6 revealed that the p-value (sig.) of 0.64was greater than 0.05 level of significance. This implies that there is no significant ($p<0.05$) difference between the mean ratings of the responses of male and female OTM lecturers on the appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics in Delta State. Therefore, the null hypothesis of no significant ($p<0.05$) difference in the mean ratings of the responses of the two groups of respondents is accepted for hypothesis two.

DISCUSSION OF FINDINGS

This study found that the stated objectives of OTM programme in polytechnics are achievable as perceived by the respondents. In agreement with the findings Esene, Olumese and Ovbiagele (2017) identified some of the stated objectives of OTM programme to include: prepare the students for employment after graduation, meet the manpower needs of the society, and increase the options available to each student and serving as motivation in order to enhance all types of learning among others. The study also found that Office Technology and Management (OTM) courses in Polytechnics in Delta State are taught in line with the 2008 NBTE minimum guidelines. Akporehe and Obielumani (2013) reported that programme of instructions such as OTM have their specific demands for guidelines and physical facilities in order to give students proper learning experience which are essential to achieving their educational goals and objectives.

The findings of this study also identified practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics to include: utilization of video conference in OTM instruction by the lecturers, the use of audio visual such as power point/projector for instructional delivery in OTM, using suitable computer programmes and software to complement teaching in OTM, intensified use of mobile technologies such as smart phones, Laptops, Tablet (IPAD), MP3 players and E-book reader by OTM lecturers, using social medial platforms such as Facebook, Twitter, Whatsapp, and instagram for OTM instructional delivery, uploading OTM notes and instruction on YouTube for OTM students, teaching students through the use of Skype to share OTM instruction with students, creating a perfect E-learning OTM instructional environment for effective service delivery in schools, integrating the use of Computer Based Test (CBT) in OTM students' assessment and evaluation and integrating the use of Web Based Test (WBT) in OTM students' assessment and evaluation. The findings of this study corroborated that of Nedum-Ogbede (2016) who identified modern technologies to facilitates teaching and learning to include: projectors, e-mail, smart boards, mimeo boards, teleconferencing, video conferencing, Laptops, Tablet (IPAD), MP3 players and E-book reader and streaming videos.

This study equally identified appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics to include: field trip/excursion to modern office with technologies to expose students to world of work, use of planned repetition in programme delivery in OTM instruction, use of questioning in programme delivery in teaching in OTM instruction, use of instructor-led-classroom delivery system during OTM instruction, demonstration method for verbal and practical illustration in OTM instruction, discussion method for active participation and interaction between the learner and the teacher during OTM instruction, lecture method for teaching a large number of students in OTM instruction, role play that involves the learner acting a given role either as a group or as individual members of the group, project method that deals with real life situation in OTM instruction and questioning method among others. This finding of this study conformed with that of Idowu (2013) who identified effective instructional methods for teaching vocational subjects: the use of focus group, use of storytelling method, using resource persons to teach various types of business opportunities, the use of supervised study method to teach proposal writing, brain storming method, the use of practical activities to teach needed vocational skills, the use of role playing method, the use of planned work in project work and the use of questioning method.

CONCLUSION AND RECOMMENDATIONS

Education is the bedrock of meaningful industrial and socio-economic development of any society and nation. More so, quality instruction in skill-based discipline such as Office Technology and Management (OTM) is key to industrial revolution and sustainable livelihood of the teeming Nigerian youths and graduates. It is based on this background that this study was carried out to investigate improving quality of pedagogy/instructional practices in Office Technology and

Management programme in Africa polytechnics for sustainable growth, security and development, using Delta State as a case study. From the data collected and analysed, the study found that the stated objectives of OTM programme in polytechnics are achievable and that Office Technology and Management (OTM) courses in Polytechnics in Delta State are taught in line with the 2008 NBTE minimum guidelines. In addition, the study identified 12 practices for improving pedagogy/instructional quality through the use of new technologies in OTM instruction in Polytechnics and 18 appropriate pedagogy/instructional strategies for quality OTM instruction in Polytechnics in Delta State. There was no significant ($p< 0.05$) difference in the mean ratings of male and female OTM lecturers in Polytechnics in the state. Based on the findings, the study recommended:

1. There should be adequate provision of modern instructional facilities by administrators of Polytechnics to ensure quality pedagogy and instruction in Nigerian schools.
2. There should be creation of modernized working condition by administrators of polytechnics for increased service delivery of lecturers.
3. There should be periodic training of OTM lecturers on effective use and application of modern instructional facilities and strategies for pedagogical relevance in their teaching profession.

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