

## **CRITICISM OF ISSUES AND STRATEGIES OF NIGERIAN OTM CURRICULUM REVIEW AND IMPLEMENTATION: A STUDY OF RIVERS STATE POLYTECHNICS**

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**ABSTRACT:** *This study adopted a survey research design on Criticism of Issues and Strategies of Nigerian OTM Curriculum Review and Implementation: a Study of Rivers State Polytechnics. The population of the study was numbered 866 OTM students with a sample of 270 using Krejcie and Morgan as sampling technique. Five purposes, research questions and hypotheses were posed and formulated to guide the study. The research instrument used was called “Criticism of Issues and Strategies of Nigerian OTM Curriculum Review and Implementation (CIASONOTMCRAM)” with a four point scale. The instrument was subjected to face and content validation by three experts. To ascertain the reliability and consistency of measurement, a pilot study was done on 14 students which yielded 0.89 co-efficient. A total of 270 copies of the questionnaire were administered and successfully retrieved. Mean statistics was used to answer the research questions, Standard Deviation was employed to find out the extent in which scores clustered around the means and t-test used to analyse the hypotheses. The findings of the study confirmed that there was low level of review and implementation of OTM curriculum in Rivers State Polytechnics. Among other things, it was recommended that there should be very high level of regular review of OTM curriculum, training and retraining to enable lecturers possessed high level of ICT expertise in teaching OTM students to achieve high level of implementation of OTM curriculum in Rivers State Polytechnics*

**KEYWORDS:** criticism of issues, strategies, curriculum, OTM curriculum, review of curriculum, level of review of OTM curriculum, level of implementation of curriculum, rivers state polytechnics and Nigeria

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### **INTRODUCTION**

Office Technology and Management (OTM) 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 (Olukemi & Boluwaji, 2014). The OTM curriculum was designed to equip students with secretarial/office skills

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for employment in various fields of endeavours. NBTE (2004) asserted that in addition to the acquisition of vocational skills in Office Technology and Management, the students are equipped with effective work competencies and socio-psychological work skills which are very essential in every day interactions with others.

Curriculum is the ground which students and lecturers cover in order to reach the goals and objectives of education (Robert, 2014). It is the totality of all the experiences to be gotten by the students under the auspice or guidance of the lecturers. It is impossible to achieve any national goal without a good curriculum content and coverage. The National Board for Technical Education introduced the old secretarial studies curriculum for National Diploma and High National Diploma levels in 1989 (Agbongiasede, 2014). The old curriculum was entirely dominated by shorthand (5units) and typewriting (4units) courses with the inclusion of some management courses which did not help matters and became a serious issue. The old curriculum became obsolete and begged for holistic review. It took NBTE about 17 years to introduce curriculum content with a new name called Office Technology and Management in 2006 which prompted this criticism of review and implementation.

The new OTM curriculum against the old one consisted of courses like ICT, general studies/education, foundation courses, entrepreneurship education, supervision of industrial work experience(SIWES) there was remarkable improvement in the new OTM curriculum better than the old one (NBTE, 2006). Oludele and Dosunmu (2013) described curriculum implementation as a network of varying activities which involved in translating curriculum design into classroom activities and changing people's attitudes to accept and participate in these activities. Implementing the new, long awaited ICT-driven OTM curriculum expectedly threw up various new issues. The OTM curriculum was aimed at producing graduates who would be able to effectively manage the electronic driven office, and who would be equipped with secretarial and office skills for employment in various fields of endeavour. OTM curriculum developers envisage existence of solid internal evaluation for ensuring minimum standard and quality. The new OTM curriculum 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). OTM programme provides students with in-depth administrative office preparation to meet the demands and challenges in the business environment.

Through the programme, students can obtain marketable skills applicable to various careers and industries as well as cognitive skills transferable to other employment situations and life experience. The design of OTM programme components appears to be responsive to a global initiative with an objective that portends new academic direction in favour of ICT. The objectives, theoretical and practical contents of the new curriculum are geared towards integrating graduates of OTM department into the evolution of technology.

The National Board for Technical Education whose statutory functions is to formulate policies, including reviewing of curriculum for polytechnic and colleges of education and technology in Nigeria has deemed it necessary to come up with the change of secretarial studies to office

technology and management and there is no doubt that when a programme is re-structured, the curriculum must be reviewed to meet the dynamics of the new demand, hence, some challenges are bound to emanate. NBTE further viewed that graduates should fit properly into the office of any computerized organization and perform professionally the function of a secretary which include relating in organizations, attending meetings and providing information as may be required, making accurate records of proceedings, filling and retrieving information, taking appropriate action independently when faced with challenges of secretarial office problems, showing personal qualities and attributes that are conducive and co-exist with the work group. New innovations and technologies are being introduced on daily basis. There are certain challenges that are being faced in Nigeria and generally developing countries in the course of coping with the global demand as well as running OTM programme in particular. OTM is viewed as concept associated with office automation, electronic technology and office globalization (Olukemi & Boluwaji, 2014).

The need to prepare competent, skilful and employable graduates in the world of work, which is being driven by technological content was lacked in the curriculum of erstwhile secretarial studies programme in the nation`s tertiary institutions gave birth to office technology and management. A major aspect of the work of office technology and management students and lecturers is using modern technologies. The course has only changed in nomenclature and widen in scope. Professionals in the field are regarded as secretaries, confidential secretaries, executive secretaries, and the likes, including the 21<sup>st</sup> century office managers. The emerging challenges now are more than ever before, Nigerian economy requires competent workforce with relevant psychomotor, cognitive and affective domains (Akpotohwo, 2017). Akpotohwo observed further that courses in the OTM curriculum include ICT office applications I and II, database management system, management information system, advanced web page design, advanced desktop publishing, and modern office technology etc. There is now more emphasis on ICT related courses. Some polytechnics as noted by Ojukwu (2009) have sincerely indicated that there are no enough human resources to competently deliver especially, the ICT and related new courses.

In the case of ICT office applications I and II, it was revealed that lecturers who have to teach the course must be well knowledgeable in computer and its application. Azuka (2000) lamented the way and manner the new OTM curriculum was being implemented; that over 80% of the lecturers lacked the relevant competencies to teach the new courses in the reviewed curriculum. Azuka further expressed the fears that universities producing business educators including OTM graduates have not modified their curriculum in line with the new trend, portending serious danger and a call for critic and strategies with the realizing that teacher is central to the successful implementation of OTM curriculum in the polytechnics.

The introduction of ICT and entrepreneurship courses required strengthening of teachers` capacity and skills to use technology and knowing how those technologies can support student learning, improve teaching strategies and collaboration among colleagues. Mumah (2008) said that by combing ICT skills with emergent new of pedagogy, curriculum, and school organization, the students are designed for professional development with teachers who will use ICT skills and the

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expected available resources to improve their teaching, collaborates with colleagues and perhaps, ultimately become innovative leaders in their institutions and the society in general.

Okoro (2013) unreservedly postulated that indications emerging from the world of works seem to indicate that the ND and HND graduates do not seem to show adequate competency in the ICT application in their place of work. This could be attributed to the quality of the OTM programme arising from the level of review and implementation. The question is that, what is the level of availability and utilization of ICT facilities and applications for instruction in Nigerian polytechnics? What is the level of teachers' competence in handling ICT courses of OTM curriculum? What also is the level of provision of resources necessary for the teaching of OTM curriculum? Azih and Ezeka (2015) noted that resources provisions are imperative in every institution offering OTM programme.

Provision of resources includes both human and material resources. Lack of funds could be a major challenge experienced in the Nigerian tertiary institutions. Office technology and management department in the polytechnics in Nigeria is capital intensive. There must be increased funding and supporting staff to make any meaningful effort towards the realization of the objectives of the new curriculum. Azih et al (2015) further argued that in some polytechnics, there is dearth of human capital and material resources for teaching the OTM courses. In an investigation carried out by Amaiya (2013) and others, they discovered that the OTM programme in the Delta state polytechnic faces the problem of inadequacy of ICT resources and had hampered the acquisition of knowledge and skills expected to prepare the learners for the world of work. Ojukwu (2009) also posited that some polytechnics do not have enough ICT resources to competently deliver ICT related new courses in the OTM programme being implemented nation-wide. Computers are basic to teaching and learning activities involving teachers and students in the new curriculum since the curriculum is ICT compliant.

We are all witnesses to the fact that computers are not just there in most of our laboratories and the classrooms; where they exist they are few in number Azih et al (2015) stated. The result is that in some cases, large number of students are allocated to one set of computer. These challenges could be greatly responsible for inadequate OTM curriculum implementation. It took NBTE about 17 years to introduce curriculum content with a new name office technology and management in 2006, which is from 1989 to 2006. From 2006 to 2019 is about 13 years down the line. How well has the new curriculum that was introduced in 2006 been implemented? What is the labour market feedback on the performance of the graduates produced? Is 13 years not enough time for the review of the new curriculum to incorporate new things as well as device strategies to overcome the issues? Every year new technologies and new economic issues that demands new ideas and new techniques for new learners are introduced. Therefore the reason for this study "Criticism of issues and strategies of Nigerian OTM curriculum review and implementation: a study of rivers state polytechnics"

### **Justification for this Study**

The justification for this study is based on issues noticed and criticised as well as strategies to those issues noticed and criticised in Nigerian OTM curriculum review and implementation. Although

scholars like Olawole and Abuya, (2011), Oludele and Dosunmu (2013), Olawole (2013), Ehirheme (2014), Ojeaga and Igbinedion (2012) among others talked about OTM curriculum development, availability of laboratories, technologies and teachers' subject knowledge, there are some new issues that need to be properly addressed which is the reason(s) for this study.

This study is justified because it will reveal the level OTM curriculum is being reviewed, the level of availability of laboratories used for housing equipment for teaching OTM students, the level of availability of new technologies used for teaching OTM students, the level of lecturers' expertise in teaching OTM students and the level of strategies to the criticism about the issues raised in OTM curriculum review and implementation in Rivers State Polytechnics. This study also is highly justifiable because it will expose the issues to learners, institutions of learning, professional bodies, policies makers, curriculum planners and implementers, government and society in general as well as bridged the gap by providing strategies for tackling these issues clogging our educational system to ensure that OTM curriculum in Nigeria is highly regularly reviewed and adequately implemented so that learners could acquired adequate marketable and employable experiences and skills to meet the global market demand as employers and employees in the various industries. The methodology to be adopted is also another major justification for this study

## **REVIEW OF RELATED LITERATURES**

### **Level OTM Curriculum is Being Reviewed**

According to Researchgate.net (2013), the following persons from different institutions of the world expressed their views on the duration a curriculum should stay before it should be reviewed. Charles Howie of Royal Agricultural University said there was need for constant internal monitoring, annual internal review and periodic, say 5 years for external review. The questions are: what are employers saying of graduates' performance and what do the graduates think about the course?

Ian Kennedy and Prof Shanmugam said frequency of reviews depends on the subject. A field like IT, office technology and management or cyber security, where the field is changing so fast such course may be out of date by the time you have taught it, similarly for engineering. Pragmatism is needed, to be aware of how fast your field is changing, get informal feedback whenever you can from students and employers, and feed that information into the decision about when to review. Kennedy of Woolf University said apart from accreditation cycles, (Technology and Engineering) curriculum should be updated every year with the practice of continuous improvement. Dr. Ravindran S. of India said normally they change curriculum for Post Graduate programme in a minimum period of 3 years and a maximum of 5 years in new areas.

Nageswara Rao Posinasetti of University of Northern Iowa said curriculum change is a continuous process. The author said they always have a two year cycle for curriculum change. It is important to note that in a typical university system, the teacher has the necessary ability to adopt the course that he/she is teaching, modified to the extent required. Also, there is usually an accreditation cycle which is typically done once in 6 years, during which time there is a comprehensive evaluation



based on the standards suggested by the accreditation body. This really helps in improving and maintaining the curriculum.

Dickson Adom of Kwame Nkrumah University of Science and Technology said syllabus (curriculum) review usually takes 5 years after a thorough analysis of the courses and their impacts on graduates. Michael W. Marek of Wayne State College said curriculum should be reviewed, at least informally every year with the following questions: what did we learn in this class? What went well and what should we do differently next time? The bigger curriculum revisions depend more on the discipline and how fast the marketplace and required outcome skills and knowledge are changing. Of all the views, none was beyond six years of formal review compared to the case of Nigeria that was initially 17 years before it was reviewed and now has stayed 13 years yet to be reviewed. The review of curriculum need to be regular at most every five years with continuous internal yearly review by the implementers.

This will enable Nigerian economic and other challenging issues to be properly addressed. The first OTM curriculum for ND and HND was introduced in 1989 and reviewed in 2004 and implementation started about 2006. This was too long waiting time. A constant yearly internal review is needed so as to meet the societal and globally trends (Ukata, 2017).

### **Level of Availability of Laboratories Used for Housing Equipment for Teaching OTM Students**

Otobo and Makeri-Yahaya, (2009) saw facilities challenges, inadequate studios, laboratories radio set, television set, audio tape player/cassette and video players, projectors, satellites connection, sensor and other hardware and software, essential in delivery of instructions. Therefore, the modern office technology used in teaching and learning of OTM courses includes ICT hardware like radio set, television, telephone, computer, overhead projectors, electronic whiteboard, video tape recorder, filmstrip, CD-ROM, photocopier, scanner, printer. On the other hand, ICT software includes Microsoft word, Microsoft power point, coral draw, database (Microsoft Access), Microsoft Excel, Web Page, chartroom, e-mail and internet. One of the fundamentals of efficient realization of effective Office Education programme at various levels is the accessibility, sufficiency, and adequacy of the teaching/learning resources. Accessibility, sufficiency, and adequacy of ICT resources mean they are comfortable, readily and available and sufficient in quantity and quality for use. Evidently, the availability and adequacy of these ICT resources is a necessary precondition for its use in the teaching process (Bongotons and Onyenwe, 2010). The lack of utilization or under-utilization of these ICT apparatus may be as a result of the unavailability of the ICT facilities and tools and this may affect the acquisition of the needed skills by OTM students negatively. Secondly, some OTM lecturers' lacked interest in the use of ICT in impacting knowledge and skills to the students.

Nwaokolo (2010) pointed out that many OTM lecturers do not employ ICT in teaching and learning. This lack of utilization or under-utilization is because they do not possess the fundamental and required skills in ICT and its use. However, to tackle this challenge, OTM lecturers must be able to utilize the various ICT facilities to their maximum capacities and also develop interest in the use of these ICT facilities. According to Omoniyi and Elemure (2014) the

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following are some of the issues of OTM curriculum review and implementation which may affect the acquisition of skills by the students: Poorly equipped libraries, laboratories and lecture rooms, inadequate classroom accommodation, arbitrary implementation of office technology and management programme, teacher overwork, inadequate supply of ICT equipment and facilities, poor societal attitude and dearth of qualified teachers/personnel. Others are: unstable teaching staff, computer into learning areas, the poor state of the economy, corruption, scarcity and prohibitive cost of books, inadequate studios and classroom, including overcrowding of classes.

### **Level of Availability of New Technologies Used for Teaching OTM Students**

Osakwe (2012); Mohanty and Vohra (2008); Owhotu (2006), Aduwa-Ogiegbaen, Iyamu and (2005) identified the under-listed as problems associated with the use of ICT in education.

#### **Inadequate ICT Facilities**

The effective use of ICT resources in teaching would require the availability of equipment, supplies of computers and their proper maintenance including other facilities and accessories. Implementing ICT demands resources such as computers, printers, multimedia projectors, scanners, etc which are either not available or in short supply in most of the educational institutions. Besides, ICT requires up-to-date hardware and software (Tony-Okene, 2003). Using up-to-date hardware and software resources is a key feature in the diffusion of technology but a rare experience in our educational institutions (Gulbahar, 2007).

#### **Inadequate Funds**

Effective implementation of technology into education systems involves substantial funding. ICT-supported hardware, software, internet, audio visual aids, teaching aids and other accessories that demand huge funds as most of these facilities are expensive in Nigeria. Mumtaz (2000) stated that many scholars argued that lack of funds to obtain the necessary hardware and software is one of the reasons teachers do not use technology in their classes.

Afshari, Bakar, Suluan, Samah and Fooi (2009) stated that efficient and effective use of technology depends on the availability of hardware and software and the equity of access to resources by teachers. Utoware and Chamberlain (2013) identified some challenges associated with the use of new technologies in teaching. The first to consider relates to teacher. Teachers are faced with myriad of challenges occasioned by the changes caused by technologies which are occurring faster than students can be trained. Their development is a major challenge for the utilization of ICT tools. Some institutions are reluctant to arrange for refresher training for updating the skills of workers and teachers for improved performance.

Azih (2008) pointed out that learning would be meaningless without laptop computer, fax (facsimile), desktop computers, electronic mail (e-Mail), internet/internet chatting, mobile phones, interactive white board (IWB), radio/T.V. broadcast, projector, video conferencing, tele conferencing, photocopier, audio/video tapes, printers, scanners, CD Rom. The authors further stated the following are challenges of new technologies: high cost of importation new technologies, poor planning and haphazard implementation of policies, inadequate capacity

building, poor funding of new technologies, school leadership challenges, high costs of spare parts of new technologies, low level of experience technicians, high cost of installation of new technologies, lack and very low commitment by government and physical health challenge of new technologies. Others are ergonomic issues of new technologies, wrong interpretation of curriculum by business educators, students' related attitudinal problems, inadequate infrastructures and high tariff on the importation of new technologies.

### **Level of Lecturers' Expertise in Teaching OTM Students**

#### **Unqualified Teachers**

Onyesom and Utoware (2012) posited that the emergence of fresh tools (office and instructional technologies) in teaching and learning has revolutionized the entire education system and posed a lot of challenges for teaching and learning environment and the society at large. Teachers are critical stakeholders in curriculum implementation. The employment of unqualified teachers to teach business courses are of great disservice to the quality of business education graduates in which OTM is a part. It is a well-known fact that most of the higher institutions that offer business education programme suffer from shortage of qualified teachers. Business education has become a dumping ground for all sorts of graduates from different disciplines employed in the name of business educator.

#### **Lack of ICT Knowledge and Skills**

One of the challenges in the application of ICT in Nigeria education system is the poor knowledge of the teachers and instructors in using the systems gadgets. Although ICT in Nigeria education systems is gradually capturing the attention of the government, institutions, teachers and learners, teachers' knowledge of application of system does not match the ovation. This is a critical handicap in the use of ICT in Nigeria education system. The success of educational innovations depends largely on the skills and knowledge of teachers.

#### **Teachers' Attitudes and Beliefs about ICT**

The attitudes of teachers' have been found to be major predictor of the use of new technologies in instructional settings (Almusalam, 2001). Mumtaz (2000) stated that teachers' beliefs about teaching and learning with ICT are central to integration. To be successful in computer use and integration, teachers need to engage in conceptual change regarding their beliefs about the nature of learning, the role of the student, and their role as teacher. Lack of encouragement of OTM lecturers on the need to train and re-train themselves in the areas of ICT hinders their ability to connect with colleagues and experts and share ideas and information on ICT.

#### **Strategies to Criticism of OTM Curriculum Review and Implementation**

Gollor and Olukangepii (2017) postulated that the following are some of the strategies to issues of OTM curriculum review and implementation in Nigerian Polytechnics that would enable learners acquire marketable and employable skills: employment of qualified and competent teachers, training and retraining of teachers/personnel through regular workshop and conferences, consistency in government policy improved and adequate funding, properly equipped laboratories, studios with instructional materials, training of teachers on the trends of instructional strategies, methods and skills, dedication on the part of the teachers and students, students having good ICT



background before admission with personal computer, effective regular assessment and evaluation system and institution-industry collaboration.

Gallor et al (2017) further argued that the following are some of the strategies to issues of OTM curriculum review and implementation that would enable learners gain employable skills during the programme: improvement on investment on new technologies, regular power supply, and acquisition of multidimensional skills by business educators. Others are; reduction of tariff on the importation of new technologies, continuity of policy on new technologies by stakeholders, adequate implementation of policy on OTM programme. Omoniyi and Elemure (2014) suggested of replacement of obsolete technologies by new ones and training and retraining of business educators, provision of adequate infrastructure and regular internal and external review of OTM curriculum. The authors further recommends employment of qualified and competent teachers, training and retraining of teachers/personnel through regular workshop/conferences, consistency in government policy, improved funding, properly equipped automated instructional equipment and development of new methods of instruction by teachers/lecturers. Others are dedication on the part of teachers/lecturers, organized teacher development programme, ownership of personal computer by everyone, effective evaluation system, institution-industry collaboration, provision of adequate training facilities and equipment, application package for graphics, word processing, corporate governance, More courses on entrepreneurial education, Computer programming, basic networking, ICT maintenance and repairs, software/application package installation and computer safety practice (ergonomics).

### **Purpose of the Study**

The purpose of this study was to examine Criticism of Issues and Strategies of Nigerian OTM Curriculum Review and Implementation: a Study of Rivers State Polytechnics. Specifically the study sought to:

1. Find out the level OTM curriculum is being reviewed in Rivers State polytechnics
2. Find out the level of availability of laboratories used for housing equipment for teaching OTM students in Rivers State Polytechnic
3. Find out the level of availability of new technologies used for teaching OTM students in Rivers State Polytechnics
4. Find out the level of lecturers` expertise in teaching OTM students in Rivers State Polytechnics
5. Find out the level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics

### **Research Questions**

To lead this study, the under stated research questions were posited:

1. What is the level OTM curriculum being reviewed in Rivers State Polytechnic?
2. What is the level of availability of laboratories used for housing equipment for teaching OTM students in Rivers State Polytechnic?
3. What is the level of availability of new technologies used for teaching OTM students in Rivers State Polytechnics?

4. What is level of lecturers` expertise in teaching OTM students with new technologies in Rivers State Polytechnics?
5. What are the level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics?

**Hypotheses**

Five null hypotheses were formulated and tested at 0.05 levels of significance

1. There is no significant difference between the opinion of group A and group B students on the level OTM curriculum is being reviewed in Rivers State polytechnics
2. There is no significant difference between the opinion of group A and group B students on the level of availability of laboratories used for housing equipment for teaching OTM students in Rivers State Polytechnic
3. There is no significant difference between the opinion of group A students and group B students on the level of availability of new technologies used for teaching OTM students in Rivers State Polytechnics
4. There is no significant difference between the opinion of group A and group B students on the level of lecturers` expertise in teaching OTM students in Rivers State Polytechnics
5. There is no significant difference between the opinion of group A and group B students on the level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics

**METHOD**

This study adopted a survey research design. This is because it focused on factual information about the variables under investigation and the collection of opinions of the respondents. The population of the study was drawn from Captain Elechi Amadi (CEAPOLY- Group A students) and Ken-Saro-wiwa (KENPOLY – Group B students) Polytechnics of ND I, NDII, HND I and HNDII numbering 866 students of OTM programme. The population is as displayed below using exploded pie-in-3D:

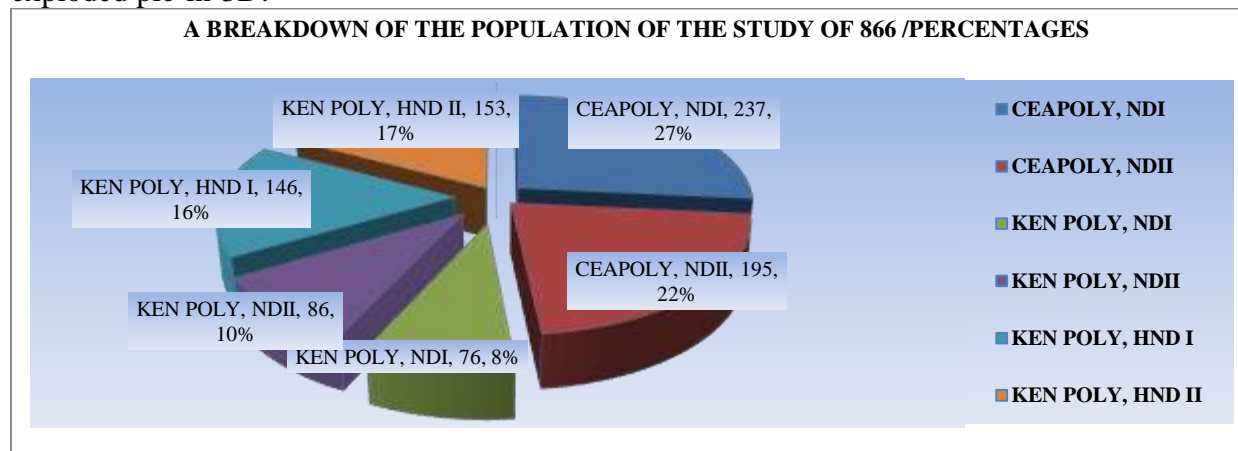


Figure 3.1: Pie in 3-D. Presentation of the Population of the Study

The sample size adopted for this study was 270 OTM students. The sample technique was Morgan and Krejcie (1970) table of determining the sample size from a known population of 866 students of Captain Elechi Amadi and Ken Sarowiwa Polytechnics of both males and females students. The confidence level was 95%; the Error of Margin was 5% with a population of 866. The name of the Polytechnics, years and their sizes, including the percentages are as displayed below using Exploded Pie in 3-D.

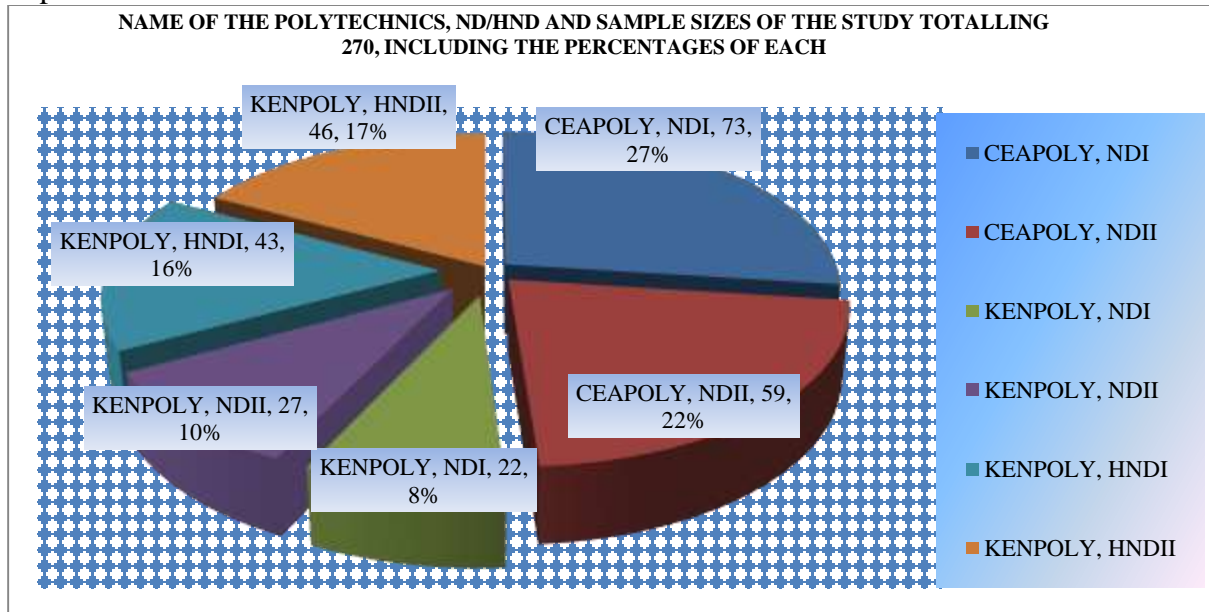


Figure 3.2 Sample Size Presented in Exploded Pie Chart in 3-D

The research instrument used for gathering primary data was a structured questionnaire entitled “Criticism of Issue and Strategies of Nigerian OTM Curriculum Review and Implementation (CIASONOTMCRAM)” with a four point scale of Very High Level of Issues (4 Points), High Level of Issues (3 Points), Low Level of Issues (2 Points), and Very Low Level of Issues (1 Point). Also, Very High Level of Strategies (4 Points), High Level of Strategies (3 Points), Low Level of Strategies (2 Points), and Very Low Level of Strategies (1 Point) were used in finding out “A Criticism of Issues and Strategies of Nigerian OTM Curriculum Review and Implementation: a Study of Rivers State Polytechnics”. The instrument was subjected to face and content validation by three experts from Department of Office Technology and Management. To ascertain the reliability and consistency of measurement, a two (2) week pilot study of internal consistency was done on twelve (12) students of Office Technology and Management of Federal Polytechnic Nekede using Pearson Product Moment Correlation Coefficient which yielded 0.86 reliability coefficients. A total of 270 copies questionnaire items were administered and all successfully retrieved. The breakdowns are as tabulated below.

Table 3.1: Copies of Questionnaire Distributed and Retrieved from the Respondents

S	NAME OF ND/HND	NO.	NO.	%	TOTAL	NO./%
N	POLYTECHNI	LEVEL	DISTRIBUTE	RETRIEVE	FOR	EACH
C	SAMPLE	D / %	D	POLYTECHNI	C	
1	CEAPOLY	ND I	72 = 27%	72 = 27%		
	CEAPOLY	ND II	59 = 22%	59 = 22%	<b>124 = 46%</b>	
2	KENPOLY	ND I	22 = 8%	23 = 8%		
	KENPOLY	ND II	27 = 10%	27 = 10%		
	KENPOLY	HND I	43 = 16%	43 = 16%		
	KENPOLY	HND II	46 = 17%	46 = 16%	<b>146 = 54%</b>	
	<b>TOTAL</b>		<b>270 = 100%</b>	<b>270 = 100%</b>	<b>270 = 100%</b>	

Source: Field Survey (2019)

Arithmetic mean was used to analyze the research questions and Standard Deviation used to find out the extent in which scores in the distribution clustered around the means. Very High Level of Review and Implementation (4 Points), High Level of Review and Implementation (3 Points), and Low Level of Review and Implementation (Points) Very Low Level of Review and Implementation (1 Point). Mean scores from 3.50 to 4.49 was seen as Very High Level of Review and Implementation (4 points), 2.50 to 3.49 High Level of Review and Implementation (3 points), 1.50 to 2.49 Low Level of Review and Implementation (2 points) and 0.50 to 1.49 Very Low Level of Review and Implementation (1 point). The decision point was that, any calculated ground mean from 2.50 and below was not accepted and any grand mean above 2.50 was accepted. Also, Very High Level of Strategies (4 Points), High Level of Strategies (3 Points), and Low Level of Strategies (Points) Very Low Level of Strategies were used in finding out Strategies to Issues of OTM Curriculum Review and Implementation in Nigeria. The decision point was that, any calculated ground mean from 2.50 and above was accepted and any grand mean below 2.50 was rejected

## RESULTS

### Research Question 1:

**What is the Level OTM Curriculum Being Reviewed in Rivers State Polytechnic?**

**Table 2:**  
**Computed Mean and Standard Deviation on the Level OTM Curriculum is Being Reviewed in Rivers State Polytechnic**

SN	Item statements	X	SD	SE	Remark
	N = 270				
1	First review 1989 to 2006 that was 17 years	1.96	0.1	0.03	LLRIOTMC
2	2006 to 2019 that is 13 years no external review	2.00	0.2	0.64	LLRIOTMC
3	Internal review by course lecturers with formal process	1.96	0.1	0.03	LLRIOTMC
4	Internal review by course lecturers without formal process	1.96	0.1	0.03	LLRIOTMC
	<b>Grand mean, SD and SE</b>	<b>1.97</b>	<b>0.1</b>	<b>0.18</b>	<b>LLRIOTMC</b>

### Field Survey, (2019)

In answering research question one and analyzing items numbered 1 to 4 on table 2, the least mean was 1.96 and the highest mean was 2.00. The grand mean was 1.97 representing low level of review and implementing OTM curriculum in the polytechnics. The grand mean was below the benchmark of 2.50, this is not accepted. It means there was low level of review and implementation of OTM curriculum in the polytechnics in Rivers State. The highest Standard Deviation was 2.0 which clustered around the mean and indicated closeness in the views of the respondents. The highest Standard Error was 0.2 and the least was 0.1, these are very low, showing a true sample mean of the data used as drawn from the population of the study. Using Point Estimation, the mean of the sample from the population was 68. This means that 69 out of every 270 respondents of the population of 866 of the study agreed that the items listed on table 2 above showed that there was low level of review and implementations of OTM curriculum in the polytechnics in Rivers State

### Research Question 2:

**What is the Level of Availability of Laboratories Used for Housing Equipment for Teaching OTM Students in Rivers State Polytechnic?**



**Table 3:**  
**Computed Mean and Standard Deviation on the Level of Availability of Laboratories Used for Housing Equipment for Teaching OTM Students**

N = 270					
SN	Item Statement	X	SD	SE	Remarks
1	Poor laboratories and lecture rooms	1.96	0.1	0.03	LLAL
2	Poorly equipped libraries/ laboratories,	2.00	0.2	0.64	LLAL
3	Inadequate classroom accommodation	1.96	0.1	0.03	LLAL
4	Inadequate computer studios	1.96	0.1	0.03	LLAL
5	Inadequate office practice studios	2.00	0.2	0.64	LLAL
6	Inadequate keyboarding studios	2.00	0.2	0.64	LLAL
7	Inadequate shorthand studios	1.92	0.1	0.03	LLAL
8	Poor equipment/facilities used for the studios	1.96	0.1	0.03	LLAL
9	Poor societal attitude towards the studios	2.00	0.2	0.64	LLAL
10	Scarcity and prohibitive cost of books	2.00	0.2	0.64	LLAL
<b>Grand Mean , SD and SE</b>		<b>1.98</b>	<b>0.1</b>	<b>0.33</b>	<b>LLAL</b>

### Field Survey, (2019)

In answering research question two and analyzing items numbered 1 to 10 on table 3, the least mean was 1.92 and the highest mean was 2.00. The grand mean was 1.98 representing low level of availability of laboratories used for housing equipment in teaching OTM students to acquire the needed skills. The grand mean was below the benchmark of 2.50, this was not accepted. It means that there was low level of availability of laboratories used for housing facilities and equipment for teaching OTM students during implementation of OTM curriculum. The highest Standard Deviation was 0.2 which clustered around the mean and indicated closeness in the views of the respondents. The highest Standard Error was 0.64 and the least was 0.03, these are very low, showing also a true sample mean of the data used as drawn from the population of the study. Using Point Estimation, the mean of the sample from the population was 27. This means that 27 out of every 270 respondents of the population of 866 of the study agreed that the items listed on table 3 above showed that there was low level of availability of laboratories used for housing facilities and equipment for teaching OTM students during implementation of OTM curriculum

### Research Question 3:

**What the Level of Availability is of New Technologies Used for Teaching OTM Students in Rivers State Polytechnics?**

**Table 4:**  
**Computed Mean and Standard Deviation on the Level of Availability of New Technologies Used for Teaching OTM Students in Rivers State Polytechnics**

N = 270					
SN	Item Statement	X	SD	SE	Remark
1	Inadequate Laptop Computer, Fax (Facsimile),	1.96	0.1	0.03	LLAL
2	Inadequate Desktop Computers,	2.00	0.2	0.64	LLAL
3	No/Inadequate Electronic Mail (E-Mail),	1.96	0.1	0.03	LLAL
4	No/Inadequate Internet/Internet Chatting,	1.96	0.1	0.03	LLAL
5	Inadequate Interactive White Board (IWB),	2.00	0.2	0.64	LLAL
6	Inadequate Projector,	2.00	0.2	0.64	LLAL
7	Inadequate Video Conferencing,	1.92	0.1	0.03	LLAL
8	Inadequate Photocopier,	1.96	0.1	0.03	LLAL
9	Audio/Video Tapes., CD Rom	2.00	0.2	0.64	LLAL
10	High cost of importation new technologies	2.00	0.2	0.64	LLAL
11	Poor funding of new technologies	1.96	0.1	0.03	LLAL
12	High costs of spare parts of new technologies	2.00	0.2	0.64	LLAL
13	Low level of experience technicians	1.96	0.1	0.03	LLAL
14	High cost of installation of new technologies	1.96	0.1	0.03	LLAL
15	Ergonomic issues of new technologies	2.00	0.2	0.64	LLAL
16	Inadequate infrastructures	2.00	0.2	0.64	LLAL
17	Inadequate Fax (Facsimile),	1.92	0.1	0.03	LLAL
18	Lack/inadequate social networks setup	1.96	0.1	0.03	LLAL
19	Lack/inadequate Radio/T.V. Broadcast,	2.00	0.2	0.64	LLAL
20	Lack/inadequate Tele Conferencing,	2.00	0.2	0.64	LLAL
21	Lack/inadequate Printers,	1.96	0.1	0.03	LLAL
22	Lack/inadequate Scanners	2.00	0.2	0.64	LLAL
<b>Grand Mean, SD and SE</b>		<b>1.96</b>	<b>0.15</b>	<b>0.30</b>	<b>LLAL</b>

### Field Survey, (2019)

In answering research question three and analyzing items numbered 1 to 22 on table 4. The grand mean was 1.98 representing low level of availability of new technologies used for teaching OTM students in Rivers State Polytechnics. The grand mean was below the benchmark of 2.50, this is not accepted. It means there was low level of availability of new technologies used for teaching OTM students during implementation of OTM curriculum in the polytechnics. The highest Standard Deviation was 0.2 which clustered around the mean and indicated closeness in the views

of the respondents. The highest Standard Error was 0.64 and the least was 0.03, these are very low, showing also a true sample mean of the data used as drawn from the population of the study. Using Point Estimation, the mean of the sample from the population was 12. This means that 12 out of every 270 respondents of the population of 866 of the study agreed that the items listed on table 4 above showed that there was low level of availability of new technologies used for teaching OTM students during implementing OTM curriculum in the polytechnics

#### Research Question 4:

#### What is the Level of Lecturers' Expertise in Teaching OTM Students with New Technologies in Rivers State Polytechnics?

Table 5:

Computed Mean and Standard Deviation on the Level of Lecturers' ICTs Expertise in Teaching OTM Students with New Technologies Rivers State Polytechnics

N = 270					
S	Item Statement	X	SD	SE	Remarks
N					
1	Unqualified Teachers	1.96	0.1	0.03	LLICTE
2	Teachers' Attitudes and Beliefs about ICT	2.00	0.2	0.64	LLITCE
3	Dearth of ICT skilled OTM lecturers	1.96	0.1	0.03	LLITCE
4	Un-dynamic nature and attitude of some lecturers	1.96	0.1	0.03	LLITCE
5	Lack of OTM lecturers train and re-train	2.00	0.2	0.64	LLICTE
6	Lack of interaction among colleagues & ICT experts	2.00	0.2	0.64	LLITCE
7	Lack/inadequate of collaboration	1.92	0.1	0.03	LLICTE
8	Inadequate funds to purchase the PCs	1.96	0.1	0.03	LLICTE
9	Inadequate funds to purchase software	2.00	0.2	0.64	LLICTE
10	Low knowledge of appropriate teaching methods	2.00	0.2	0.64	LLICTE
	<b>Grand Mean , SD and SE</b>	<b>1.98</b>	<b>0.1</b>	<b>0.33</b>	<b>LLICTE</b>

#### Field Survey, (2019)

In answering research question four and analyzing items numbered 1 to 10 on table 5, the grand mean was 1.98 representing low level of ICT expertise of lecturers in teaching OTM students with new technologies in Rivers State Polytechnics . The grand mean is below the benchmark of 2.50 and this was not accepted. It means that lecturers possessed low level of ICT expertise in teaching OTM students during implementation of OTM curriculum. The highest Standard Deviation was 0.2 which clustered around the mean and indicated closeness in the views of the respondents. The highest Standard Error was 0.64 and the least was 0.03, these are very low, showing also a true

sample mean of the data used as drawn from the population of the study. Using Point Estimation, the mean of the sample from the population was 12. This means that 12 out of every 270 respondents of the population of 866 of the study agreed that the items listed on table 5 above showed that lecturers possessed low level of ICT expertise in teaching OTM students during implementation of OTM curriculum.

### Research Question 5:

### What are the Level of Strategies to Criticism of Issues of OTM Curriculum Review and Implementation in Rivers State Polytechnics?

**Table 6:**

### Computed Mean and Standard Deviation on the Level Strategies to Criticism of Issues of OTM Curriculum Review and Implementation in Rivers State Polytechnics

SN	Item Statement	X	SD	Remark
1	Employment of qualified and competent Teachers	3.74	0.93	HLSCI OTM CRI
2	Training & retraining of personnel through workshop/conferences	3.81	0.95	HLSCI OTM CRI
3	Consistency in government policy	3.74	0.93	HLSCI OTM CRI
4	Improved funding	3.48	0.87	HLSCI OTM CRI
5	Properly equipped automated instructional Equipment	3.74	0.93	HLSCI OTM CRI
6	Use of new methods of instruction by teachers/lecturers	3.51	0.87	HLSCI OTM CRI
7	Effective evaluation system	3.74	0.93	HLSCI OTM CRI
8	Institution-industry collaboration	3.74	0.93	HLSCI OTM CRI
9	Application ICT packages with training	3.62	0.90	HLSCI OTM CRI
10	ICT Maintenance and Repairs	3.48	0.87	HLSCI OTM CRI
11	Software/Application package installation	3.66	0.91	HLSCI OTM CRI
12	Computer Safety Practice (Ergonomics)	3.03	0.75	HLSCI OTM CRI
13	Develop creation, retention & disposition training	3.66	0.91	HLSCI OTM CRI
14	Regular power supply	3.81	0.95	HLSCI OTM CRI
15	Reduction of tariff on the importation of new technologies	3.99	0.99	HLSCI OTM CRI
16	Continuity of policy on new technologies by stakeholders	3.85	0.96	HLSCI OTM CRI
17	Adequate implementation of policy on OTM programme	3.85	0.96	HLSCI OTM CRI
18	Replacement of obsolete technologies by new ones	3.77	0.94	HLSCI OTM CRI
19	Provision of adequate infrastructure	3.66	0.91	HLSCI OTM CRI
20	Regular review of OTM curriculum	3.66	0.91	HLSCI OTM CRI
21	Regular training and retraining of teachers	3.81	0.95	HLSCI OTM CRI
22	Staff collaboration	3.77	0.94	HLSCI OTM CRI
	<b>Grand Mean</b>	<b>3.68</b>	<b>0.91</b>	<b>HLSCI OTM CRI</b>

### Field Survey, (2019)

In answering research question five and analyzing items numbered 1 to 22 on table 6, the means were above the benchmark of 2.50. The grand mean was 3.68 representing high level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics. This indicates that those items on table six are high level of strategies or solutions to the criticized issues about OTM curriculum review and implementation in the two polytechnics in Rivers State. The highest Standard Deviation was 0.95 which clustered around the mean and indicated closeness in the views of the respondents. The highest Standard Error was 0.2 and the least was 0.1, these are very low, showing also a true sample mean of the data used as drawn from the population of the study. Using Point Estimation, the mean of the sample from the population was 12. This means

that 12 out of every 270 respondents of the population of 866 of the items on table six showed that they are high level of strategies or solutions to criticized issues about OTM curriculum review and implementation in the two polytechnics in Rivers State.

**HO<sub>1</sub>:**

**There is no Significant Difference Between the Opinion of Group A and Group B Students on the Level OTM Curriculum is Being Reviewed in Rivers State polytechnics**

**Table 7: Summary of Calculated T-test of Group A and Group B Students on the Level OTM Curriculum is Being Reviewed in the Polytechnics**

S/ N	SCHOOL	GROU P	MEA N	SD	N	DF	SE	T- CAL.	T- TAB.	DECISION
1	CEAPOL Y	A	1.96	0.1	27 0		0.1 8			ACCEPTED
2	KENPOL Y	B	1.95	0.1	27 0		0.1 7			
						<b>26 8</b>		<b>0.232</b>	<b>1.960</b>	

**Survey, (2019)****Decision**

From the summary T-test of table 7 of null hypothesis one, the calculated t-test 0.332 was less than the critical table value of 1.960. Because the calculated t-test value of 0.332 was less than the table value of 1.960, the null hypothesis which stated that there was no significant difference between in the opinion of group A and group B students on the level OTM curriculum is being reviewed in Rivers State polytechnics is accepted. This means that there is no difference between the opinions of groups A (CEAPOLY) students and group B (KENPOLY) students that there was low level of review and implementing OTM curriculum in the polytechnics

**HO<sub>2</sub>:**

**There is no Significant Difference Between the Opinion of Group A and Group B Students on the Level of Availability of Laboratories Used for Housing Equipment for Teaching OTM Students in Rivers State Polytechnic**



**Table 8: Summary of Calculated T-test Between Group A and Group B Students on students on the level of Availability of Laboratories Used for Housing Equipment for Teaching OTM Students in Rivers State Polytechnic**

S/ N	SCHOOL	GROUP	MEA N	SD	N	DF	SE	T- CAL.	T- TAB.	DECSION
1	CEAPOL Y	A	1.98	0.1	27 0		0.3 3			ACCEPTD
2	KENPOL Y	B	1.96	0.2	27 0		0.3 4			
						<b>26</b>		<b>0.210</b>	<b>1.960</b>	
						<b>8</b>				

**Survey, 2019****Decision**

From the summary T-test of table 8 of null hypothesis two, the calculated t-test 0.210 was less than the critical table value of 1.960. Because the calculated t-test value of 0.210 was less than the table value of 1.960, the null hypothesis which stated that there was no significant difference between the opinion of group A and group B students on the low level of availability of laboratories used for housing equipment for teaching OTM students in Rivers State Polytechnic is accepted.

This means that there is no difference between the opinions of groups A (CEAPOLY) students and group B (KENPOLY) students that there was low level of availability of laboratories used for housing equipment for teaching OTM students in Rivers State Polytechnic

**HO<sub>3</sub>:**

**There is no Significant Difference Between the Opinion of Group A Students and Group B Students on the Level of Availability of New Technologies Used for Teaching OTM Students in Rivers State Polytechnics**

**Table 9: Summary of Calculated T-test Between Group A and Group B Students on the Level of Availability of New Technologies Used for Teaching OTM Students in Rivers State Polytechnics**

S/ N	SCHOOL	GROUP	MEA N	SD	N	DF	SE	T- CAL.	T- TAB.	DECSION
1	CEAPOL Y	A	1.96	0.1	27 5		0.3 0			ACCEPTD
2	KENPOL Y	B	1.96	0.1	27 6		0.3 1			
						<b>26</b>		<b>0.110</b>	<b>1.960</b>	
						<b>8</b>				

**Survey, 2019**

**Decision**

From the summary T-test of table 9 of null hypothesis three, the calculated t-test 0.110 was less than the critical table value of 1.960. Because the calculated t-test value of 0.110 was less than the table value of 1.960, the null hypothesis which stated that there was no significant difference between the opinion of group A students and group B students on the level of availability of new technologies used for teaching OTM students in Rivers State Polytechnics is accepted. This means that there is no difference between the opinions of groups A (CEAPOLY) students and group B (KENPOLY) students that there was low level of availability of new technologies used in teaching OTM students during implementation of OTM curriculum in Rivers State Polytechnics

**HO<sub>4</sub>:**

**There is no Significant Difference Between the Opinion of Group A and Group B Students on the Level of Lecturers` Expertise in Teaching OTM Students in Rivers State Polytechnics**

**Table 10: Summary of Calculated T-test of Group A and Group B Students on the Level OTM lecturers` expertise in teaching OTM students in Rivers State Polytechnics**

S/ N	SCHOOL	GROU P	MEA N	SD	N	DF	SE	T- CAL.	T- TAB.	DECISION
1	CEAPOL Y	A	1.98	0.1	27 0		0.3 3			ACCEPTED
2	KENPOL Y	B	1.98	0.1	27 0		0.3 3			
						<b>26</b>		<b>0.254</b>	<b>1.960</b>	
						<b>8</b>				

**Survey, (2019)****Decision**

From the summary T-test of table 10 of null hypothesis four, the calculated t-test 0.254 was less than the critical table value of 1.960. Because the calculated t-test value of 0.254 was less than the table value of 1.960, the null hypothesis which stated that there was no significant difference between the opinion of group A and group B students on the level of lecturers` expertise in teaching OTM students with new technologies in Rivers State Polytechnics is accepted. This means that there is no difference between the opinions of groups A (CEAPOLY) students and group B (KENPOLY) students that there was low level OTM lecturers` expertise in teaching OTM students with new technologies in Rivers State Polytechnics

**HO<sub>5</sub>:**

**There is no Significant Difference Between the Opinion of Group A and Group B Students on the Level of Strategies to Criticism of Issues of OTM Curriculum Review and Implementation in Rivers State Polytechnics**

**Table 11: Summary of Calculated T-test of Group A and Group B Students on the on Strategies to Criticism of Issues of OTM Curriculum Review and Implementation in Rivers State Polytechnics**

S/ N	SCHOOL	GROU P	MEA N	SD	N	DF	T- CAL.	T- TAB.	DECISION
1	CEAPOL Y	A	3.68	0.9	27				
				2	0				
2	KENPOL Y	B	3.67	0.9	27				
				1	0				
						<b>26</b>	<b>2.274</b>	<b>1.960</b>	<b>ACCEPTED</b>
						<b>8</b>			

Survey, (2019)

### Decision

From the summary T-test of table 11 of null hypothesis five, the calculated t-test 2.274 was greater than the critical table value of 1.960. Because the calculated t-test value of 2.274 was greater than the table value of 1.960, the null hypothesis which stated that there was no significant difference between the opinion of group A and group B students on strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics was rejected. This means that there is difference between the opinions of groups A (CEAPOLY) students and group B (KENPOLY) students on strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics. It means that those are strategies or solutions to criticized issues about OTM curriculum review and implementation in the two polytechnics

### DISCUSSION OF FINDINGS

A thorough analysis of the views of respondents with items on table 2, the study showed that there was low level of review and implementation OTM curriculum in the polytechnics. The opinions of the students were seriously in agreement with the views of Charles Howie of Royal Agricultural University , Ian Kennedy and Prof Shanmugam-Dr Ravindran , Kennedy of Woolf University , Nageswara Rao Posinasetti of University of Northern Iowa, Dickson Adom of Kwame Nkrumah University of Science and Technology through Researchgate.net (2013); they all agreed that curriculum in the areas of technologies which include Office Technology and Management curriculum needs regular review of at most five years duration for external and internal review. This was against the case of Nigerian OTM curriculum review that had the first review from 1989 to 2006 that was 17 years, 2006 to 2019 that is 13 years no external review, indicating low level of review and implementation OTM curriculum in the polytechnics.

A thorough analysis of the views of respondents with items on table 3 indicated low level of availability of laboratories used for housing facilities and equipment for teaching OTM students during implementation of OTM curriculum. The views of the respondents were supported by Otobo and Makeri-Yahaya (2009), (Bongotons & Onyenwe, 2010). Nwaokolo (2010), Omoniyi and Elemure (2014) who saw Poorly equipped libraries, laboratories and lecture rooms, inadequate

classroom accommodation, arbitrary implementation of Office Technology and Management programme. They also noted facilities challenges, inadequate studios, laboratories radio set, television set, audio tape player/cassette and video players, projectors, satellites connection, sensor and other hardware and software, essential in delivery of instructions, lack of utilization or under-utilization of these ICT apparatus may be as a result of the unavailability of the ICT facilities and tools and this may affect the acquisition of needed skills by OTM students negatively

A thorough analysis of the views of respondents with items on table 4 reflected low level of availability of new technologies used for teaching OTM students during implementing of OTM curriculum in the polytechnics. The views of the respondents were upheld by Osakwe (2012); Mohanty and Vohra (2008); Owhotu (2006) and (Gulbahar, 2007) who identified inadequate ICT facilities such as computers, printers, multimedia projectors, scanners, etc. as issues. Also, Afshari, Bakar, SuLuan, Samah, and Fooi (2009) and Azih (2008) pointed out that learning would be meaningless without Laptop Computer, Fax (Facsimile), Desktop Computers, Electronic Mail (E-Mail), Internet/Internet Chatting, Mobile Phones, Interactive White Board (IWB), Radio/T.V. Broadcast, Projector, Video Conferencing, Tele Conferencing, Photocopier, Audio/Video Tapes. Printers, Scanners, CD Rom. A sincere analysis of the views of respondents with items on table 5 showed that lecturers possessed low level of ICT expertise in teaching OTM students during implementation of OTM curriculum. The views of the respondents were in agreement with Onyesom and Utoware (2012), (Almusalam, 2001) and Mumtaz (2000) who identified unqualified Teachers, Lack of ICT knowledge and skills, Teachers' attitudes and beliefs about ICT as some major constraints against the implementations of office technology and management curriculum in the polytechnic

A sincere analysis of the views of respondents with items on table 6 showed high level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics. The views of the respondents were in agreement with Gollor and Olukangepii (2017), Omoniyi and Elemure (2014) who identified employment of qualified and competent teachers, training and retraining of teachers/personnel through regular workshop/conferences; consistency in government policy, improved funding, properly equipped automated instructional classrooms and development of new methods of instruction by teachers/lecturers. Others are dedication on the part of teachers/lecturers, organized teacher development programme, ownership of personal computer by every lecturer, effective evaluation system, institution-industry collaboration, provision of adequate training facilities and equipment etc. as strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics

### **Implication of the Study**

The educational implications of this study are based on the learners, institutions of learning, professional bodies, policies makers, curriculum planners and implementers, government and society in general. Based on the number one findings of this study, because there was low level of review and implementations of OTM curriculum in the polytechnics in Rivers State, it mean that new things must have been omitted and that as technological oriented curriculum at most review should be done in every five years with yearly internal reviews and that respondents must have acquired low level of experiences. It's educationally implies that little about the objectives of OTM

curriculum has been met by the learners and institutions under study because of the low level of review and implementations of OTM curriculum. These also imply that concerned authorities like government; implementers, administrators etc., need to double efforts to see that OTM curriculum is highly regularly reviewed and adequately implemented

Based on the number two findings of this study, because there was low level of availability of laboratories used for housing facilities and equipment like computer studios, model office practice studio, stenographic studio etc.; for teaching OTM students during implementation of OTM curriculum. It's implies that learners must have suffered the problem of acquiring practical experience and this could affect their practical performance negatively when in the labour market. This also imply that concerned authorities like government; implementers, administrators etc.; need to double efforts and ensure availability of laboratories for housing facilities and equipment for the teaching and learning OTM curriculum.

Based on the number three findings of this study, because there was low level of availability of new technologies like. Teleconference, Interactive White Board (IWB), Internet/Internet Chatting etc. used for teaching OTM students during implementing OTM curriculum in the polytechnics, it implies that learners would lack some of the necessary technological expected skills. This also imply that concerned authorities like government; implementers, administrators etc., need to double efforts and ensure availability of new technologies as needed for teaching and learning to justify students` investment in the programme.

Based on the number four findings of this study, because there was low level of ICT expertise of lecturers like Teachers' Attitudes and Beliefs about ICT, Lack of OTM lecturers train and re-train, Unqualified Teacher in teaching OTM students with new technologies in Rivers State Polytechnics, it implies that learners must have not acquired the appropriate and adequate ICT skills as OTM students. It also implies that authorities like government; implementers, administrators and the teachers etc should ensure there is adequate training and retraining of teachers to acquire adequate ICT expertise in teaching OTM students.

Based on the number five findings of this study, because there was high level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics. It implies the issue and problems criticized in number one to four as finding of this study could be solved through provision of laboratories, new technologies, training and retraining of teachers Employment of qualified and competent teachers. This automatically implies that curriculum planners, implementers, government and other concerned agencies need to do more to enable learners acquire these problems are solved so that OTM student can acquire the needed skills.

## **CONCLUSION**

Based on the findings of this study, it was concluded that there was low level of review and implementing OTM curriculum , low level of availability of laboratories used for housing facilities and equipment for teaching OTM students during implementation of OTM curriculum, low level of availability of new technologies used for teaching OTM students during implementing OTM



curriculum in, lecturers possessed low level of ICT expertise in teaching OTM students during implementation of OTM curriculum and high level of strategies to criticism of issues of OTM curriculum review and implementation in Rivers State Polytechnics

### **Recommendations**

1. There should be regular external review of OTM curriculum every five and yearly internal review to avoid low level of review and implementing OTM curriculum in the polytechnics and other higher institutions
2. Government and other concerned organizations should provide adequate and up-to-date facilities, equipment, laboratories, studios etc. to avoid low level of availability of laboratories used for housing facilities and equipment for teaching OTM students during implementation of OTM curriculum in the polytechnics.
3. Government, higher institutions and other concerned organization should make available adequate new technologies in the right condition and quantity to avoid low level of availability of new technologies used for teaching OTM students during implementing OTM curriculum in the polytechnics.
4. There should be regular training and retraining to enable lecturers possessed high level of ICT expertise in teaching OTM students during implementation of OTM curriculum and high level of strategies to critic of issues of OTM curriculum review and implementation in Rivers State Polytechnics
5. Government and concerned organizations should make appropriate and adequate teaching and learning environment, facilities and equipment for environmental teaching and learning experiences

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**APPENDICES****Appendice 1****Row Scores on the level of review of OTM curriculum in Rivers State Polytechnics**

<b>N = 270</b>						
	Item statements	4 VLR	3 HLR	2 LLR	1 VLLR	TR N
<b>1</b>	First review 1989 to 2006 that was 17 years	20 (80)	50 (150)	100(20 0)	100(10 0)	530
<b>2</b>	2006 to 2019 that is 13 years no external review	30 (120)	40 (120)	100(20 0)	100(10 0)	540
<b>3</b>	Internal review by course lecturers with formal process	20 (80)	50 (150)	100(20 0)	100(10 0)	530
<b>4</b>	Internal review by course lecturers without formal process	20 (80)	50 (150)	100(20 0)	100(10 0)	530

**Field Survey (2019)****Appendice 2****Raw Score on the level of availability of laboratories used for housing facilities and equipment for teaching OTM students in Rivers State Polytechnics**

Laboratories and lecture rooms	4	3	2	1	TNR
Poorly equipped libraries, 530	20 80	50 150	100 200	100 100	100 100
Inadequate classroom accommodation 540	30 120	40 120	100 200	100 100	100 100
Inadequate computer studios 530	20 80	50 150	100 200	100 100	100 100
Inadequate office practice studios 530	20 80	50 150	100 200	100 100	100 100
Inadequate keyboarding studios 530	30 120	40 120	100 200	100 100	100 100
Inadequate shorthand studios 530	30 120	40 120	100 200	100 100	100 100
Poor equipment and facilities used for the studios 520	10 40	60 180	100 200	100 100	100 100
Poor societal attitude towards the studios 530	20 80	50 150	100 200	100 100	100 100
Scarcity and prohibitive cost of books 530	20 80	50 150	100 200	100 100	100 100

**Field Survey (2019)**

**Appendice 3****Raw Scores on the level of availability of new technologies used for teaching OTM students in Rivers State Polytechnic**

N = 270		4	3	2	1
Item Statement		TNR			
		20 80	50 150	100 200 530	100 100
1	Inadequate Laptop Computer, Fax (Facsimile),	30 120	40 120	100 200 540	100 100
2	Inadequate Desktop Computers,	20 80	50 150	100 200 530	100 100
3	No/Inadequate Electronic Mail (E-Mail),	20 80	50 150	100 200 530	100 100
4	No/Inadequate Internet/Internet Chatting,	30 120	40 120	100 200 540	100 100
5	Inadequate Interactive White Board (IWB),	30 120	40 120	100 200 540	100 100
6	Inadequate Projector,	10 40	60 180	100 200 520	100 100
7	Inadequate Video Conferencing,	20 80	50 150	100 200 530	100 100
8	Inadequate Photocopier,	20 80	50 150	100 200 530	100 100
9	Audio/Video Tapes., CD Rom	20 80	50 150	100 200 530	100 100
10	High cost of importation new technologies	30 120	40 120	100 200 540	100 100
11	Poor funding of new technologies	20 80	50 150	100 200 530	100 100
12	High costs of spare parts of new technologies	20 80	50 150	100 200 530	100 100
13	Low level of experience technicians	30 120	40 120	100 200 540	100 100
14	High cost of installation of new technologies	30 120	40 120	100 200 540	100 100
15	Ergonomic issues of new technologies	10 40	60 180	100 200 520	100 100
16	Inadequate infrastructures	20 80	50 150	100 200 530	100 100
17	Inadequate Fax (Facsimile),	20 80	50 150	100 200 530	100 100
18	Lack/inadequate social networks setup	20 80	50 150	100 200 530	100 100

19	Lack/inadequate Radio/T.V. Broadcast,	30 120	40 120	100 200 540	100 100
20	Lack/inadequate Tele Conferencing,	20 80	50 150	100 200 530	100 100
21	Lack/inadequate Printers,	20 80	50 150	100 200 530	100 100
22	Lack/inadequate Scanners	30 120	40 120	100 200 540	100 100

**Field Survey (2019)**

**Appendice 4**

**Raw Scores on the level of lecturers` ICTs expertise in teaching OTM students with new technologies Rivers State Polytechnics**

N = 270		4	3	2	1	TNR
SN	Item Statement	20 80	50 150	100 200 530	100 100	100 100
1	Unqualified Teachers	30 120	40 120	100 200 540	100 100	100 100
2	Teachers' Attitudes and Beliefs about ICT	20 80	50 150	100 200 530	100 100	100 100
3	Dearth of ICT skilled OTM lecturers	20 80	50 150	100 200 530	100 100	100 100
4	Un-dynamic nature and attitude of some lecturers	30 120	40 120	100 200 540	100 100	100 100
5	Lack of OTM lecturers train and re-train	30 120	40 120	100 200 540	100 100	100 100
6	Lack of interaction among colleagues & ICT experts	10 40	60 180	100 200 520	100 100	100 100
7	Lack/inadequate of collaboration	20 80	50 150	100 200 530	100 100	100 100
8	Inadequate funds to purchase the PCs	20 80	50 150	100 200 530	100 100	100 100
9	Inadequate funds to purchase software	20 80	50 150	100 200 530	100 100	100 100
10	Low knowledge of appropriate teaching methods	30 120	40 120	100 200 540	100 100	100 100
Grand Mean , SD and SE						

**Field Survey (2019)**



**Raw Scores on the level solutions to challenges of acquiring electronic records management skills by OTM students**

SN	Item Statement	4	3	2	1	TNR
1	Employment of qualified and competent Teachers	200 (800)	70 (210)	0 (0)	0 (0)	1010
2	Training & retraining of personnel through workshop/conferences	220 (880)	50 (150)	0 (0)	0 (0)	1030
3	Consistency in government policy	200 (800)	70 (210)	0 (0)	0 (0)	1010
4	Improved funding	150 (600)	100 (300)	20 (40)	0 (0)	940
5	Properly equipped automated instructional Equipment	200 (800)	70 (210)	0 (0)	0 (0)	1010
6	Development of new methods of instruction by teachers/lecturers	220 (880)	50 (150)	0 (0)	0 (0)	950
7	Effective evaluation system	200 (800)	70 (210)	0 (0)	0 (0)	1010
8	Institution-industry collaboration	210 (840)	50 (150)	10 (20)	0 (0)	1010
9	Application ICT packages with training	170 (680)	100 (300)	0 (0)	0 (0)	980
10	ICT Maintenance and Repairs	150 (600)	100 (300)	20 (40)	0 (0)	940
11	Software/Application package installation	200 (800)	50 (150)	20 (40)	0 (0)	990
12	Computer Safety Practice (Ergonomics)	100 (400)	100 (300)	50 (100)	20 (20)	820
13	Develop implement creation, retention and disposition training	200 (800)	50 (150)	20 (40)	0 (0)	990
14	Regular power supply	220 (880)	50 (150)	0 (0)	0 (0)	1030
15	Reduction of tariff on the importation of new technologies	200 (800)	50 (150)	20 (40)	0 (0)	990
16	Continuity of policy on new technologies by stakeholders	230 (920)	40 (120)	0 (0)	0 (0)	1040
17	Adequate implementation of policy on OTM programme	240 (960)	20 (60)	10 (20)	0 (0)	1040
18	Replacement of obsolete technologies by new ones	240 (960)	30 (90)	0 (0)	0 (0)	1020
19	Provision of adequate infrastructure	200 (800)	50 (150)	20 (40)	0 (0)	990

<b>20</b>	Regular review of OTM curriculum	200 (800)	30 (90)	30 (60)	10 (10)	960
<b>21</b>	Regular training and retraining of teachers	220 (880)	50 (150)	0 (0)	0 (0)	1030
<b>22</b>	Staff collaboration	150 (600)	100 (300)	10 (20)	10 (10)	1020

**Field Survey (2019)**