CHAPTER ONE

INTRODUCTION

Background to the Study

To a large extent, the success or failure of any educational system depends on the successful planning and execution of the instrument called curriculum. A curriculum is like a plan of a house, it is a mapped out plan of instructions or guides to be followed in the process of teaching and learning in a formal learning institution. Some educationist claim that the wealth or poverty of a nation depends on the content of the nation's educational curriculum. This is because, the value, dreams and desires of a nation are first of all interpreted in curriculum. Curriculum therefore, consists of a carefully mapped out programme containing what to teach, how to teach it, when to teach, and how to evaluate. Curriculum planning and development is therefore, concerned with the subject-matter, content, the pedagogical methods required to administer the content, the learner, the teacher, the physical and psychological environment of the learners. All these are required for the achievement of the goal of education.

The curriculum is defined in various ways due to its changing nature. The changes in concepts emanate from changes in the concept of the knowledge, the learner, and the role of the learner. The concepts change to

cope with the knowledge explosion in the society. Based on the above, Ferdinand (2007) defined curriculum as the totality of all the experiences provided to a learner under the auspices of the school. Curriculum is concerned with all activities in the school which lead to the development of learner's cognitive, affective and psychomotor. It is an official document used in the school or any formal setting prepared for a learner and serves as a guideline for a facilitator of learning.

A worth-while curriculum is never static. It is subject to change. As societal needs change, it becomes paramount to match the polytechnic curriculum with the needs. This leads to the replacement of secretarial studies with office technology and management in order to meet societal changes and demands on information and communication technology (ICT). Emphasis on ICT brought about drastic change in course offering in polytechnic with ICT carrying the highest unit. This is in line with the first goal and objective for the acquisition of secretarial skills which states that graduates of the Office Technology and Management (ND and HND) programmes should fit properly into the office of any computerized organisation and perform professionally the functions of a secretary (Iredia, 2006).

The acquisition of new skills became necessary because of the emerged and emerging new technologies that have changed the way people think, live

and work. According to Agomuo (2010), the fast changes that have occurred and continue to occur in office work calls for preparedness. Supporting the above statement, Nte (1995), declared that, time indeed has come for employers, academics, practitioners and educational planner to face realities of the time, if they are to flow along with the change of the time. The dynamism of the time is a function of varied innovation, inventions gradually affecting the entire workings and business life of the society. Those who do not want to move with the changes will be left in their static state or kept in the cooler.

The primary mission of Office Technology and Management is to offer training in skill and knowledge in science technology and the arts for the use of brain, mind and hand for promoting self-reliance, technological advancement and sustainable national development. In a bid to meet the societal changes and demands in information and communication technology (ICT) leading to curriculum change, old courses have been removed and new courses like technical English, citizenship education, introduction to business, shorthand, ICT, office practice, modern office technology, management records, research techniques, principle of accounting, small business management, communication skills, project, social psychology, business law, office administration and management, research method, professional career

development, database management system, oral communication skills, elements of human resource management, professional ethics and social responsibility and Nigeria labour law introduced to ensure that the content of what the students learn is in line with the industrial and societal needs. Keyboarding is still taught in the programmes as part of a semester course in computer applications, but there is a push to teach keyboarding at a much earlier stage in education.

The National Diploma (ND) and Higher National Diploma (HND) programmes in Office Technology and Management last two years each, and they are designed to equip students with secretarial/office skills for employment in various fields of endeavour. Agomuo (2010), defined Office Technology and Management as the technology used in the office like a computer and a printer. It is something that helps one to be effective in the office and helps one to achieve one's goals which convention would not allow the individual to effectively do. Students of OTM programmes are exposed to courses in their special areas as well as courses in general education. In addition to the acquisition of practical skills in office technology and management, the students are equipped with effective work competencies and socio-psychological work skills, which are very essential in everyday interaction with people.

The objective of the Office Technology and Management programmes therefore, is the acquisition of OTM skills. These include at the National Diploma (ND) level, the ability to write in shorthand for three minutes varied materials of 1.3 syllabic intensity dictated at 80 WPM and transcribed on the typewriter with a minimum of 95 percent accuracy, type effectively various office jobs and acquire a typewriting copying rate of 40 WPM on passages not below 1.30 syllabic intensity with 98 percent accuracy. The student should fit in properly into the office and any organisation and perform professionally the functions of a secretary which among other things include – relating the functions of the office to the whole organisation, attending meetings and providing information as may be required, taking accurate records of meetings, filling and retrieving information, taking appropriate action independently when faced with challenging secretarial office problem, showing personal qualities and attributes conducive to tolerance and co-existence with the work group and, at the Higher National Diploma (HND) level, the ability to acquire general education and a solid foundation for advance studies.

The general entry requirement into the National Diploma (ND) programme as spelt out by National Board for Technical Education (NBTE) are: the West African School Certificate (WASC), Senior Secondary Certificate (SSC), the General Certificate of Education (GCE), Ordinary Level, National

Examination Council (NEC0) certificate with five (5) credit passes at a sitting or six (6) credit passes at two sittings including English and a pass in Mathematics (Literature and oral English are not acceptable as substitutes for English language) or five (5) credit passes in teachers' Grade two II Certificate Examination including English Language.

The curriculum of OTM consists of four main components for the National Diploma (ND) and Higher National Diploma (HND), General studies, Education foundation course, professional courses and Supervised Industrial Work Experience Scheme (SIWES). The General Education component shall include courses in citizenship education 1 and II and communication which are compulsory. The general education component shall account for not more than 15 percent of total contact hours for the programme. Foundation courses include courses in economics, business mathematics, business administration, accounting, Nigeria legal system and entrepreneurship. Foundation courses should account for 10-15percent of the contact hours for each semester. Professional courses are courses which give the students the theory and practical skills needed to practice as secretaries. These may account for between 60-70 percent of the contact hours. Supervised industrial work experience scheme (SIWES) shall be taken during the long vocation following

the end of the second semester of the first year. For the purpose of final evaluation, SIWES shall account for 5percent of the total marks.

For the lecturers teaching the programme, the new curriculum is drawn in unit courses. This is in keeping with the provisions of the Federal Government of Nigeria (2004), in her National Policy on Education which stresses the need for introducing the semesters credit units, which will enable a student, who so wishes to transfer the units already completed in an institution to another of similar standard. This explains why a student at the polytechnic can for instance transfer his/her credit unit obtained in the polytechnic to another at the Higher National Diploma (HND) level. The success of the credit unit system depends on the articulation of programmes between the institutions and industry. The teaching of the theory and practical work should as much as possible, be integrated. For each course, there should be a balance of theory and practical in the ratio of 50-50 or 60-40 or the reverse.

Staff qualification for the teaching of office technology and management programme depends on the relevant and suitable personnel for the programme. The acceptable educational qualification of the personnel for the programme is Higher National Diploma Certificate in Secretarial studies from Nigerian polytechnic for instructorship cadre and First Degree in Business

Education (Secretarial option) from universities for lectureship cadre. The teachers teaching the programme are adequately guided on the contents of the curriculum and what is expected of them by the contents of the curriculum.

The Higher National Diploma programme of Office Technology and Management is a two year programme designed to equip students with secretarial/office skill for employment in various fields of endeavour. Students of this programme are exposed to courses in their special areas as well as courses in general education. The objective of the programme therefore, is the acquisition of OTM skills. This includes at the Higher National Diploma (HND level, the ability to write in shorthand for three minutes varied materials of 1.4 syllabic intensity dictated at 100 Words Per Minute (WPM) and transcribed on the typewriter with a minimum of 95percent accuracy. At this level, a student is expected to type effectively various office jobs and acquire a copy rate of 50 Words Per Minute (WPM) on passages not below 1.30 syllabic intensity with 98 percent accuracy.

The general entry requirements for Higher National Diploma (HND) programme in Office Technology and Management apart from the requirements into the National Diploma programme in Office Technology and Management programme is that candidates must have a minimum of a lower

credit pass (CGPA 2.40) in the National Diploma (ND) examination, with one year work experience. However candidate with a pass grade at National Diploma (ND) must have two (2) years work experience.

The curriculum structure for both National Diploma (ND) and Higher National Diploma (HND) in Office Technology and Management consists of four semesters of classroom and laboratory activities in the institution. Each semester shall be of seventeen (17) weeks made up as follows: 15 contact weeks of teaching i.e. teaching, practical exercises, quiz test, etc. and two (2) weeks for examinations. Registration for SIWES can be planned at a convenient period of the programme. Each programme offered at the National Diploma (ND) and Higher National Diploma (HND) levels shall be accredited by the National Board for Technical Education (NBTE) before the award of National Diploma/Higher National Diploma certificate (NBTE, 2005). The final year students in the programmes are expected to carry out a project work. This could be on individual basis or group work. The project reports should be properly supervised and well presented. The department should also make their own arrangement of schedules for the project work.

The National Diploma (ND)/Higher National Diploma (HND) programme is strictly based on the areas of the curriculum and course specification described in appendix C which the OTM programme depends on. Instructional

facilities and equipment for OTM programme are listed in the curriculum and course specifications by NBTE in line with the number of the equipment and the number of students to use it at a particular lecture period. It is through these facilities and equipment that the teacher is able to carry out his instructional activities for the students.

To ensure optimum teaching and learning under the best of conditions, OTM departments are expected to be adequately and sufficiently provided with requisite instructional facilities and equipment. Where the instructional facilities are non-existent or inadequate, effective teaching and learning may not take place. According to Ile (2001), the Federal Ministries of Education, Science and Technology had stipulated the minimum standard of equipment and facilities needed for the teaching and learning of business subjects in schools. The facilities and equipment needed in school laboratories and workshops should be a replica of the type of facilities and equipment that are found in the labour market as this will facilitate the performance of OTM graduates.

The respondents were OTM academic staff and they vary in their characteristics in terms of gender, status, ownership of the polytechnic and length of service\experience. The gender of the OTM academic staff consists of male and female. In polytechnics, academic staff status is of four

categories, the lecturers, instructors, technologists and technicians. The lecturers are those with first degree from a recognized university, while the instructors, technologists and technicians are those with HND from a recognized polytechnic. The polytechnic is either owned or funded by the federal or state governments. The number of years in service determines how experienced or inexperienced the academic staff is in teaching profession. It is assumed that from one to five years are regarded as being inexperienced, while from six years and above are regarded as be experienced. However, the assessment of the facilities and equipment was based on the minimum standards stipulated by NBTE (2004) as its benchmark.

Statement of the Problem

In this era of Information and Communication Technology (ICT), human and material resources are very important in realizing the mission and vision statements of OTM in the polytechnics which was aimed at meeting the skill and competency needs of the industry and society in general. The availability and adequacy of the resources will help in full implementation of Office Technology and Management curriculum in polytechnics.

It has been observed that most of OTM graduates cannot effectively operate ICT gadgets like smart phones, camcorders, laptops, Ipods, Iphones, superior version of VCDS, PCS, Computer notebooks, pedometers and so on.

Akpomudjere and Usioboh (2011) observed that most of the polytechnics in Nigeria that offer OTM suffer from inadequate modern office technology and information systems required for effective teaching/learning. Okeme (2011) noted that polytechnic students, OTM graduates inclusive, cannot operate the information and communication technology gadgets effectively. Based on researcher's interaction with some of stakeholders and employers of labour, they did not hide their dissatisfaction over the incompetence and ineffectiveness of OTM graduates in the use of ICT gadgets. One wonders what could be the cause of the poor performance of OTM graduates in modern offices as reported by their employers and the stakeholders in government ministries and organizations. Could it be as a result of inadequate human and materials resources required for effective teaching\learning? Based on this problem, the study was conceived to assess the provision and resources utilization for the implementation of office technology and management curriculum in polytechnics in south-south Nigeria.

Curriculum should always be reviewed or overhauled according to the trend in world development and must at all times, be tailored for production that matches the needs of the consumers/society, and even foreign markets, for the purpose of foreign exchange earnings.

Purpose of the Study

The main purpose of this study was to assess the level of the provision and resources utilization for the implementation of OTM curriculum in Polytechnics in South-South of Nigeria. Specifically the study assessed the:

1. Adequacy of available personnel in OTM Department (lecturers, instructors, technologists/technicians) for the implementation of the curriculum in polytechnics in the South-south Nigeria.
2. Adequacy of physical facilities available for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.
3. Adequacy of available equipment and supply in the computer and typewriting laboratories for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.
4. Adequacy of available equipment and supply in shorthand laboratory for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.
5. Adequacy of available equipment and supplies in the model office for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.
6. Adequacy of available office practice laboratory for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.
7. Adequacy of available equipment and supplies in resource/business centre for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.

8. Adequacy of available OTM curriculum contents for the production of skilled manpower for the modern offices for the implementation of OTM curriculum in polytechnics in the South-south Nigeria.
9. Extent to which OTM academic staff utilize available material resources for effective implementation of OTM curriculum in polytechnics in the South-south Nigeria.

Significance of the Study

The findings of this study would be of immense benefits to the National Board for Technical Education (NBTE) which is the supervising body of all the polytechnics in Nigeria, polytechnic administrators, OTM academic staff and students, authors and publishers as well as researchers.

National Board for Technical Education (NBTE) will benefit a lot from the result of this study as it concerns the OTM curriculum. This is because the inadequacies detected in this report would become resource\reference materials on which curriculum reform can be carried out for better outcome. It is believed that a good curriculum reform will, to a great extent, meet up with the societal needs and individual's efficiency and effectiveness in their community.

To the polytechnic administrators, the findings will enable them to establish effective methods of recruiting competent lecturers, who must have specialized in Office Technology and Management. It will also help the

administrators to draw up proper monitoring and assessment programmes of Office Technology and Management courses at the various level of studies and also help them make the necessary adjustment, or changes which will definitely improve on the implementation of the Office Technology and Management curriculum, and it will also act as an elixir for the realization of set goals of Office Technology and Management programmes.

The OTM academic staff would benefit from the knowledge gained from this study since it will be an eye-opener, having assessed the implementation of office technology and management programmes in making constructive suggestions in areas of the programme that need modification and as well understand the importance of utilizing available equipment/facilities and instructional materials in teaching. The utilization will help to improve students' mastery and performance

The revelation of the findings of this study will also enable the OTM students to have a better understanding of the course content, be well prepared and have confidence in themselves with a view to meeting and proffering solutions to challenges in their work places.

More importantly, researchers, authors, will use the findings of this research as a guide in developing relevant textbook and other instructional materials in relation to the current OTM curriculum, as well as updating the

relevant materials to meet up with the technological changes in our modern offices. The information and data from this study will also help researchers who may wish to carry out related studies in the future.

Scope of the Study

The content of this study was delimited to the assessment of the provision and resources utilization for the implementation of OTM curriculum in polytechnics in south-south Nigeria covering adequacy of personnel, physical facilities, computer and typewriting laboratories, shorthand laboratory, office practice laboratory, model office, resource/business centre, curriculum components and utilization of available material resources by the academic staff for effective implementation of OTM curriculum.

This study, however, was restricted to office technology and management personnel (lecturers, instructors, technologists and technicians) in only public polytechnics in South-South Nigeria. Private polytechnics in the area was not included because they do not offer office technology and management programmes. Also the study did not cover teaching methods adopted by the lecturers. Effects of gender and experience of the respondents as well as ownership of their institutions on their opinions was determined

Research Questions

The following research questions guided the study:

1. To what extent are the personnel in OTM department adequate and available for the implementation of OTM curriculum in polytechnics in south-south Nigeria?
2. To what extent are the physical facilities are adequate and available for the implementation of OTM curriculum in polytechnic in south-south Nigeria?
3. To what extent are the equipment and supplies are adequate and available in computer and typewriting laboratories for the implementation of OTM curriculum in polytechnics in south-south Nigeria?
4. To what extent are the equipment and supply in shorthand laboratory are adequate and available for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?
5. To what extent are the equipment and supplies in business model office are adequate and available for the implementation of OTM curriculum in polytechnics in south-south Nigeria?
6. To what extent are the equipment and supplies in office practice laboratory are adequate and available for the implementation of office technology for the implementation of OTM curriculum in polytechnics in south-south Nigeria?

7. To what extent are the equipment and supplies in resource/business centre are adequate and available for the implementation of OTM curriculum in polytechnics in south-south Nigeria?
8. To what extent would OTM personnel assess the curriculum components for the implementation of OTM curriculum in polytechnics in south-south Nigeria?
9. To what extent do OTM personnel in south-south utilize the available material resources for the implementation of OTM curriculum in polytechnics in south-south Nigeria?

Hypotheses

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

1. There is no significant difference in the mean ratings of respondents on the utilization of available material resources for the implementation of OTM curriculum in the polytechnics in South-South, Nigeria as a result of their level of experience (1-5 years/above 5 years).
2. Male and female respondents do not differ significantly in their mean ratings on the utilization of the available equipment and material resources for the implementation of OTM curriculum in the polytechnics in south-south Nigeria.
3. Respondents (academic staff) do not differ significantly in their mean ratings on OTM curriculum components of NBTE 2005 as a result of status.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter on the review of related literature was treated under the following sub-headings:

Conceptual Framework

Assessment

Implementation

OTM curriculum

Theoretical Framework

Tyler's objective model

Discrepancy evaluation model

Context, Input, Process and Product (CIPP) evaluation model

Theoretical Studies

Types of teaching facilities/equipment available

Staff requirement and qualification

Curriculum components of OTM programmes

Review of Related Empirical Studies, and

Summary of literature Review

Assessment

Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand and can do with their knowledge as a result of their educational experiences (Huba & Freed, 2000). Assessment is the systematic basis for making inference about the learning and development of students. It is the process of defining, selecting, designing, collecting, analyzing, interpreting and using information to increase students' learning and development (Erwin, 1999).

Assessment in the context of this study refers to a review of educational activities or programmes to improve student learning and enable the achievement of programme objectives. According to Hornby (2006), assessment is "an opinion or feedback about something that has been thought about very carefully". An assessment is a diagnostic process that measures the individual's behaviours, motivation, attitudes, or other selected qualities. In order to be of value to the individual and organisations, an assessment must be accurate to meet scientific criteria and as well provide meaningful insight (Wikipedia: the free Encyclopedia).

Assessment gives organisations more than just data and information. It opens doors to strategic change and helps to measure progress. Assessment

can lead to increased self awareness and inspire people to learn and grow. Our assessments reflect our philosophy and values. They stand up to rigorous scientific tests of quality, address real world business/educational issues, and encourage the human spirit in a respectful and meaningful way (Wikipedia: the free Encyclopedia). Assessment could mean the process of collecting relevant information about educational programmes towards student learning. Assessment is the evaluation or estimation of the nature, quality or ability of someone or something "the assessment of educational needs" (www.google.com). Assessment is an ongoing process of gathering, analyzing and reflecting on evidence to make informed and consistent judgement to improve future students learning (http://vels.vcaa.vic.edu.un/11/rubrics.html).

Assessment is the systematic collection, review and use of information about educational programme to student learning. It focuses on what students know, what they are able to do and what values they have when they graduate. It is concerned with the collective impact of a programme on student learning. Assessment can be carried out in different programmes or professions like educational assessment, health assessment, nursing assessment, political assessment, psychiatric assessment, psychological assessment, risk assessment, tax assessment, and vulnerability assessment.

Our concern here is on educational assessment since the study is focused on an academic programme. Educational assessment is the process of documenting, usually in measurable terms, knowledge, skills, attitudes and beliefs. Assessment can focus on the individual learner, the learning community (class, workshop or other organisational group of learners), the institution or the educational system as a whole (www.en.wikipedia.org/wiki/educational.a..).

The term 'assessment' is generally used to refer to all activities teachers use to help students learn and to gauge student progress (Marian Webster, 2005 online Dictionary). It is the systematic collection, review, and use of information about educational programmes undertaken for the purpose of improving student learning and development (Palamba & Banta, 1999). Assessment is an ongoing process aimed at understanding and improving students learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing and interpreting evidence to determine how well performance matches those expectations and standards; and using the result information to document, explain and improve performance (www.sculd.edu/what).

When assessment is embarked upon, the following questions are asked:

- What do the educational experiences of our students add up to?
- Can our students integrate learning from individual courses into a coherent whole?
- Do our students have the knowledge, skills and value a graduate should possess?
- How can students learning be improved (California State University Long beach).

Similarly, for a learning endeavour to be successful, the learner must have answers to the following basic questions; where am I going? Where am I now? How do I get to where I am going? How will I know when I get there? Am I on the right track for getting there? These questions are integral to a good assessment programme. So, to design assessment tasks, reference is made to the educational objectives. Above everything else, is the need for the assessment tasks to align with set objectives. Assessment is defined as data gathering strategies, analyses, and reporting processes that provide information that can be used to determine whether or not intended outcome are being achieved (www.foundationcoaliation.or/ home/ke). Similarly, assessment is the process of gathering information from a variety of sources that accurately reflect how well a student is achieving the curriculum expectation (University of Toronto Schools, 2007). According to Walvoord

(2004), assessment is the systematic collection of information about student learning using the time, knowledge, expertise, resources available in order to inform decisions about how to improve learning.

According to Linda (2009) assessment is defined as the on-going process of establishing clear, measurable expected outcomes of students learning, ensuring that students have sufficient opportunities to achieve those outcomes systematically, gathering, analyzing and interpreting evidence to determine how well students learning matches the expectations and using the resulting information to understand and improve student's learning (www.assess. psu.edu/FAD/).

Assessment is often divided for the sake of convenience using the following distinctions: formative assessment, summative assessment, authentic assessment.

Assessment is the process used by teachers and students to recognize and respond to students learning in order to enhance the learning, during the learning process (NICOL and MacFarlane-Dick (2005). They emphasized the role students can play in producing formative assessments stating that formative assessment aids learning by generating feedback information that is of benefit to students and teachers.

Also, William (1996) maintained that practice in classroom is formative to the extent that evidence about student achievement is elicited, interpreted and used by teachers, learners or their peers to make decision about the next steps in instruction that are likely to be better, or better founded, than the decision they would have taken in the absence of the evidence that was elicited. William (1996) added that formative assessment is a range of formal and informal assessment procedures employed by teachers during the learning process in order to modify teaching and learning activities to improve students' attainment. It typically involves qualitative feedback rather than scores for both students and teachers that focus on the detail of content and performance. The authors operate an umbrella definition of all those activities undertaken by teachers, or by students which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged.

Summative Assessment

Summative assessment is used at the end of a unit or semester to determine what each student has achieved and learnt. It is intended to identify how much has been learnt. In an educational setting, summative assessments are typically used to assign students course grade. Summative assessments are evaluative (vels,vcca,vicedu.com/11/iubrics).

It provides information on product's efficiency (its ability to do what it was designed to do). For example, did the learners learn what they were supposed to learn after using the instructional module? In a sense, it does not bother to assess "How they did, but more importantly by looking at how the learners performed, it provides information as to whether the product teaches what it is supposed to teach (Glickman, Gordon and Ross=Gordon, 2009).

Authentic Assessment

Authentic assessment involves the application of knowledge and skills over times, it requires clear criteria of which students are aware and involved (vels, vcaa,vicedu.au/11/rubrics.html). Authentic assessment tends to focus on complex or contextualized tasks, enabling students to demonstrate their competency in a more authentic setting. Examples of authentic assessment include performance of the skills, or demonstrating use of particular knowledge, simulations and role plays, studio portfolios, strategically selecting, items exhibitions and displays. Authentic assessment refers to assess task that resemble reading and writing in the real world and in school (Hiebert, Valencis and Afflerback, 1994; Wiggins, 1993). According to them, its aim is to assess many different kinds of literacy abilities in contexts that closely resemble actual situations in which those abilities are used.

Criterion – Referenced and Norm Referenced Assessment

Okoro (2010), noted that a norm referenced test indicates whether the test taker did better or worse than other people who took the test. A criterion referred test would report the student's performance strictly according to whether the individual student correctly answered these questions. Lim and Onyesom (2012), defined these two types of assessment in the following:

Norm referenced assessment – "A test or other type of assessment designed to provide a measure of performance that is interpretable in terms of an individual's relative standing in some known group".

Criterion – referenced assessment – "A test or other type of assessment designed to provide a measure of performance that is interpretable in terms of clearly defined and delimited domain of learning tasks". According to Stufflebeam (1971), the name criterion referenced is derived from the purpose of the test; to find out whether the criteria stated in an objective have been achieved.

Similarly, Smith and Ragan (1999), noted that criterion referenced tests have also been referred to as objective-referenced or domain-referenced instruments. They believe that this testing strategy is effective for determining "competency" especially as it relates to meeting instructional objectives.

Based on these assessment types, its focus is on students' activities, etc. The present study focuses on assessing the level of the provision and resources utilization for the implementation of OTM curriculum as it relates to the students, the lecturers (implementers) and the society as a whole.

Implementation

Implementation refers to a specific set of activities designed to put into practice an activity or program (Fisen, Naoom, Blasé, Friedman & Wallace, 2005). According to this definition, implementation processes are purposeful and are described in sufficient detail such that independent observers can detect the presence and strength of the "specific set of activities" related to implementation. In addition, the activity or program being implemented is described in sufficient detail so that independent observers can detect it presence and strength.

The authors said a review of school-based prevention programs found that implementation quality was the most important programme feature associated with outcomes. Durlak and Dupre (2008), affirmed that in some cases, programmes have failed to achieve their intended outcomes for youth when implementation was poor whereas, in other cases, programme impact was much higher when there were reports of more effective implementation participants may receive more benefit as a result of better programme

implementation or may receive no significant benefit if programme implementation is poor. The point is that quality implementation is necessary to increase the chances of being successful. In other words, when it comes to implementation, what is worth doing is worth doing well.

At first glance, one would assume that a proposed programme and the one that is eventually delivered are very similar, that is, no essential differences appear between the planned programme and subsequent practice. Implementation in the context of this study refers to a change of educational activities or programmes to improve students' learning and teacher imparting the right knowledge to the students to enable achievement of programme objective. (Durlak and Dupre, 2008; Fixen, Naoom, Blase, Friedman & Wallace, 2005), posited that evidence for the importance of implementation has been obtained in multiple areas including education, mental health, health care, community based initiatives, technology, industry and management. Moreover, implementation is important regardless of characteristics of the target population, the types of programme, and specific program goals. Wilson, Lipsey & Derzon (2003), stated that quality implementation is one critical factor associated with programme outcomes and it relevant to each aspect of implementation, fidelity, adaptation and dosage.

It is assumed that for general public welfare, societies strive towards the fairest allocation of resources to as many in the population as possible (Durlak & Dupre, 2008). However, resources are always limited in some way. Usually, important decision must be made. Should we support this programme or an alternative programme? Should we introduce a new programme or continue with services as usual? These decisions should be made in reference to the quality of implementation that has been achieved.

Society experiences serious short-term and long-term cost when programmes are poorly implemented. In an environment in which resources are limited, money and staff time are ill-spent on programmes that do not reach their goals. The decision making process regarding the fairest allocation of limited resources is also compromised when the potential impact of programmes cannot be determined because implementation is poor. Decision-makers may assume that a programmes is ineffective when in reality the programme might produce strong outcomes if it were well-implemented and finally but not least, the human costs are high when those at risk and in need of services are ill-served.

Implementation requires strength in several dimensions: three important ones are fidelity, adaptation and dosage.

- Fidelity is the extent to which all the major elements of the original programme are faithfully reproduced.
- Adaptation is the extent to which the programme is changed or modified.
- Dosage refers to how much of the original programme is delivered.

Our concern here is on educational implementation of programmes since the study is focused on an academic programme. Educational implementation is the phase where visions and plans become reality. This is the logical conclusion, after evaluating deciding visioning, planning, applying for funds and finding the financial resources of a project (www.ssion.ifo/content) .

Implementation is a process whereby project inputs are converted to project outputs. Putting in action the activities of the project putting into practice what was proposed in the project document that is transforming the project proposal into the actual project, and management of the project or executing the project intention (www.reading.ac.uk).

According to Durlak & Dupre, (2008), whether a new programme is begun in a school, health care setting, mental health clinic or other community-based organization, the host must be committed to ensuring the new programme is well implemented. This means the organisation must devote sufficient effort and resources toward this process. An investment in

evidence based programmes requires an investment in quality implementation. The authors believed that society must invest in quality implementation through mechanisms such as providing adequate funds for quality implementation and recognizing that time is needed to bring new programmes and implement them.

The possible changes that might occur in levels of implementation overtime, underscores the critical importance of continual monitoring. One cannot assume that the level of implementation displayed during the early stage of a programme will be the same as that achieved at the end of the programme.

All these definitions and explanations of implementation show that no business undertaking, government departments, organisation establishment, school can survive or flourish without implementation. Thus, implementation is an indispensable and essential part of every organization, both private and public, small or large.

Office Technology and Management (OTM) Curriculum

Office technology and management curriculum is now the name for secretarial studies curriculum used for the training of secretaries at both National and Higher National Diploma in the polytechnics in Nigeria. In line

with this new curriculum, the department has equally changed to be known as the Department of OTM.

The National Board for Technical Education (NBTE) had to embark on the review of the 1989 curriculum due to the fact that the said curriculum was no longer adequate for preparing secretaries needed to occupy positions in the Information and Communication Technology (ICT) driven office. Hence there was the need to have a curriculum to meet the new technological and socio-economic trends by ensuring that the curriculum contains ICT and entrepreneuring modules (Ojukwu, 2008).

Commenting further on this, Oyagiri & Nwke (2011) observed that the 1989 curriculum for producing secretarial studies graduates did not consider computer and e-commerce skills and knowledge required of this cadre of office workers. He went further to state that the Federal Government had recently made computer knowledge a pre-requisite for employment of workers. Today's office work demands competency in all aspects of ICT by everyone especially the OTM students and graduates.

In any business organisation, government, ministry and parastatal, there is need for the daily records of its activities to be kept and protected. It is in the office that such activities are carried out or records kept. It will not be wrong to regard the office as the hub of all business activities and the data

bank or information centre of any organisation. This is to say that no business undertaking, government department or parastatal can survive or flourish without maintaining an office. Thus, the office is an indispensable and essential part of every business undertaking, private or public, large or small depending on the structure of the organisation.

Okpako (2008), defined the office as a room or a building where all information concerning the activities of a company can be obtained. Okpako further described an office as a place where the activities of an organisation are coordinated.

The term "office" was defined by Geoffery (1977), as a room or building where clerical processes are carried out to start, develop and control the many activities of business. Oduma (2004), described an office as a place (room or building) where or in which the paperwork of an enterprise is carried out. He also saw it as a place or room where activities of clerical nature are done. An office is a department in an organisation where people deal with a particular kind of administrative work or a small building or room where people can go for information (Chike, 2010).

Ezinwa (1990), defined office as a place where business is transacted or professional services are available. Ezinwa further stated that "it is a mistake

to regard an office as a specific place". To Ezinwa, it is better said that an office exists anywhere that certain kinds of work are performed.

Agbo, Ishiaku & Anikene (2007), citing Roral Worson define office as the place where information is received, sorted, acted upon, filed and passed on. Office is a location, usually a building or portion of a building where a company conducts its business. A company can have just one office known as its home office, or a main office and a variety of field offices or branch offices. All of these offices are involved in some way in the business of the company (www.google.com.ng).

An office is generally a room or other area in which people work, but many also denote a position within an organisation with specific duties attached to it. An office is an architectural and design phenomenon and a social phenomenon, whether it is a tiny office such as a bench in the corner of a "mom and pop shop" of extremely small size through entire floors or buildings up to and including a massive building dedicated entirely to one company. In modern terms; an office usually refers to the location where white collar workers are employed (Wikipedia: the free encyclopedia). Office is a room used for business activities, a room in which business or professional activities take place, often occupied by a single person or a single section of the business. An office is a place of business where a commercial,

professional, or government organisation carries out its activities (www.google.com.ng). Omagbom & Obriki (2010), citing Okagbare-Okiti (2005) saw an office to be a place (room or building) where the administrative work of an organisation is done and where all sorts of paper work such as letters, records files, correspondences are carried out to develop and control the various activities of business.

Office simply refers to a place for the smooth running of administrative and structural convenience of staff which is designed to facilitate free flow of activities and enhance general attitude to work. The office receives and furnishes information to the organisation and individuals or group of individuals who need them. The office does not only supply information, it receives, records, arranges and processes information within and outside the business organisation as and when needed by the organisation.

The main purpose of an office environment is to support its occupants in performing their jobs preferably at minimum cost and to maximum satisfaction with different people performing different tasks and activities. However, it is not always easy to select the right office spaces. To aid decision making in workplace and office design, one can distinguish three different types of office spaces, work spaces, meetings spaces and support spaces (Wikipedia: the free Encyclopedia).

All these definitions and explanations of office show that no business undertaking, government department or parastatal, organisation, establishment, school can survive or flourish without maintaining an office. Thus, the office is an indispensable and essential part of every business undertaking, private or public, large or small depending on the structure of the organisation.

Technology is making a tremendous impact on virtually every human endeavour, more especially in offices. Technology has evolved the function of the office to rely on different types of improved and standard equipment. Technology simply implies the application of knowledge to meet the goals, goods and services desired by people. It is the innovation change or modification of the nature of environment to perceived human needs and wants (Ejeta, 2010). Technology is the activity or study of using scientific knowledge for practical purpose. It can be referred to as the scientific equipment and methods used in a particular area of activity (Chike, 2010).

Ikpo (2010), defined technology as the means or activity by which man seeks to change and manipulate his environment. Anyaduba (1993), defined technology as the application of scientific principles in research, design, development, production and distribution of service. It involves the use of machines in getting things done.

Ezenwafor & Okeke (2010), defined technology as simply connoting skill, machines, products, processes and designs. Azuka (2009), defined technology as the process by which machines and equipment are introduced in the work place to facilitate administrative processes. Ignatius (1995), defined technology as the use of scientific knowledge to produce goods and services useful to man, and Galbraith (1997), defined it as the systematic application of scientific or other organized knowledge to practice tasks. Also, Adeosun (1998), saw technology as a complex and integrated process aimed at determining and resolving human problems, and Koleoso in Oduya (2003), posited that technology is the art, the know-how and practical application of science and a tool for achieving self reliance, controlling destiny and environment and for solving socio-economic problems.

Kotler (2004), observed that one of the most dramatic forces shaping people's lives is technology. Technology is playing a leading role not only in business operations but also in the management of business information.

Obayi (2006), stated that Technologies have progressively invaded our life. Sometimes to our surprise, the television brings to everybody at home world news, monies, culture, entertainment and sometimes education, banking operations and more recently telebanking can performed using credit or bank cards. Computers control city traffic, capture satellite images for

weather forecasts and now control "intelligent" buildings. Tele-working becomes another possibility either to avoid losing time in heavy traffic, or work at home when access to workplace is not necessary.

Technology is now used throughout the world for gathering information, keeping records, creating proposals, construction knowledge, performing simulations to develop skills, distance learning, and global collaboration for lifelong learning and work. Its pervasive use across almost all aspects of modern life, including business, industry, communication and entertainment warrants continued efforts on the part of educators to prepare students for participation in a technological world. Doing so effectively requires gathering information from research and best practices in technology and earning (www.apple.com/education/research).

Okwuananso and Obayi (2003), noted that those who do not embrace technology with true determination will be at a district disadvantage because of its potential benefits to efforts in the area of work and product innovation. Technology simply means the use of scientific knowledge to produce goods and services useful to man and his environment. Technology has come to stay and will continue to change and improve the odd/traditional way of doing things both at home, offices and even in academic institutions at large. The rapid advancement in technology and the new innovations are moving the

world from industrial society to information society but care should be taken in managing both the technology and the information in the offices. However, office technology means the use of machines with appropriate skill and technique to make work easier in the office. Gustroger (1988), defined office technology as that technology which directly impacts on office procedures especially as it concerns methods by which information is obtained and transmitted and the methods meetings are conducted and sales and payments are made.

Omagbomi and Obriki (2010), stated that office technology is the application of scientific knowledge in carrying out office functions. The term office technology includes anything from a duty stamp that costs less than a Naira to an integrated computer system costing millions of Naira. The authors further stated that office technology is the means by which information is acquired, organized, stored and manipulated.

Management in all business and organisational activities is the act of coordinating the effort of people to accomplish the desire goals and objectives using available resources efficiently and effectively (http://en.wikipedia.org/wiki/ management). Management is the achievement of organisational objectives through people. Onwuchekwa (2002), saw management as the process of planning, organising, leading and controlling

the efforts of organisational goal. He also went further to define management as a process because the activities performed by managers regardless of their particular skills, are interrelated and these activities are directed towards some objectives. Chike (2010), stated that management is a situation or act of controlling and organizing something to realize the desired goals, objectives or target for adopting or establishing it, using the available minimal resources.

Onwuchekwa (2002), defined management as a process of planning, organizing, leading and controlling the efforts of organisation members and of using all other organisational resources to achieve stated organisational objective. Adesina (1990), saw it as the organisation and mobilization of all human and material resources in a particular system for the achievement of identified objectives in the system.

Oduma (2004), stated that Management means getting things done through other people by organizing them into a work team and assigning function and ensuring through coordination, control and proper motivation that these functions are performed creditably by justify and monetary expenditure made in connection with the payment of wages and procurement of material resources of the business.

Breach (2003), defined management as a social process entailing responsibility for the effective and economical planning and regulation of the

operations of an enterprise in fulfillment of a given purpose or task. Such responsibility involve, judgement and decision in determining plans, and the development of data and procedures to assist the control of performance and progress against plans; and the guidance, integration, motivation and supervision of the personnel composing the enterprise and carrying out its operations.

Enume (2004), defined management as the process undertaken by one or more individuals to coordinate the activities of others in order to achieve results not achievable by one individual, acting alone. Adiotomre (2005), stated that management is the achievement of objectives through people. It is the effective utilization of scarce human and physical resources to achieve goals in a conducive environment. Management simply means the process of dealing with or controlling things or people.

Oduma (2004), listed the following functions of management; planning, organizing, staffing, directing, coordinating, reporting and budgeting. He said that these management functions are interdependent and inter-woven. They dovetail into each other and are always in a constant interactive process to keep the organisation on track in purchasing its set goals and objectives. The author maintained that a good management is hinged on fourteen major principles of division of work, discipline, unity of command, unity of direction,

subordination of individual's to general interest, remuneration, centralization, scalar chain, order, equity, initiative, stability of tenure and spirit de' corps.

However, office management is the art of guiding the personnel of the office in the use of means appropriate to its environment in order to achieve its specific purposes (Agbo, Isiaku & Anikena, 2004). The authors further cited the Institute of Administrative Management which defined office management as that branch of management which is concerned with the services of obtaining, recording and analyzing information of planning of communication by means of which the management of business safeguards it assets, promotes its affairs and achieves it objectives.

Oduma (2004), defined office management as the process of programming and handling of information, data and all communication process including other documents which fall outside the scope or range previously mentioned for the effective management and execution of organisational plan and policies all required for the achievement of the ultimate goals and objectives of the organisation.

Office management simply entails the process of coordinating and organisational activities and personnel for achievement of organisational stated goals and objectives. The important aspect of office management as listed by Agbo, Isiaku, & Anikene (2007), are purpose, office organisation,

office methods, office personnel, office environment, office machines and equipment.

The concept of curriculum is a changing one, and over the years the concept has been defined in various ways. This is true, as human society is dynamic and so no two societies are exactly the same.

Curriculum means different things to different people probably because of numerous definitions by various scholars which can be slightly confusing. Curriculum has its origin in the running/chariot tracks of Greece. It was literally, a course. In Latin, curriculum was a racing chariot, "curnere" meaning "to run". In its broadcast sense, curriculum may refer to all courses offered at a school or institution by students. Curriculum is the key to a programme existence, which determines the direction of educational activities. It simply means the pivot for a programme's existence. A curriculum is that reconstruction of knowledge and experience, systematic development under the auspices of the school to enable learners to increase their control of knowledge and experience (Tanner & Tanner, 2000).

Curriculum outlines the skills, performances, attitudes, and values students are expected to learn from schooling. It includes statements of desired students' outcomes, descriptions of materials, and planned sequence

that will be used to help students attain the outcomes (wikipadia the free encyclopedia).

Kelly (1999), defined curriculum as all the learning which is planned and guided by the school, whether it is carried on in groups or individually, inside or outside the school. According to Ezengwu (2001), curriculum is the sum total of all planned and guided programmes by means of which the formal educational system of a nation is executed or carried out. It is the complete experience of a child under guidance and direction of the school. Olopele (2001), described curriculum as the planned and guided learning experiences and intended learning outcomes formulated through the systematic reconstructions of knowledge and experience under the auspices of the school for the learners continuous and willful growth in personal and social competence. Njoku (1997), defined curriculum as a group of courses or planned experiences in proper sequence to topics designed to prepare an individual for efficient service in a specific vocation.

Inyamah (2001), observed that the curriculum of any school consists of all the situations that the school may select and consistently organize for the purpose of bringing about changes in the behaviour of pupils as a means of developing the personality of the individuals. Wojtezak (2002), defined curriculum as an educational plan that spells out which goals and objectives

should be achieved, which topic should be covered and which methods are to be used for learning, teaching and evaluation.

Coles (2003), argued that a curriculum is more than a list of topics to be covered by an educational programme for which the more commonly accepted word is a syllabus. A curriculum is first of all a policy statement about a piece of education and secondly an indication as to the ways in which that policy is to be realized through a programme of action.

A curriculum may also refer to a defined and prescribed course of studies, which students must fulfill in order to pass a certain level of education. According to Njoku (2001), curriculum is said to be the offering of socially value knowledge, skills and attitudes that may be available to students through a variety of arrangements during the time they are at school, college or university.

All the definitions of curriculum hinge on planning and arranging of academic activities or educational programmes to achieving the stated objectives through a guided effort of the teacher. Curriculum in education can simply be described as a programme of study designed to meet up with the learner's demands as it affects the demand in the labour market. This implies that the curriculum contents are not supposed to be rigid rather they should change along with the changes in the labour market/society. Osuala (1987),

stated that curriculum development provides the means for periodic evaluation and subsequent modification as may be necessary to keep the school programme abreast of the changing pupils and society needs. The curriculum must enable students to see the outside world as an extension of their colleges/universities, that is, what the curriculum is out to offer to them must be the basis of what they are going to encounter later in life.

According to Eya (1999), curriculum concept can be conveniently grouped into two namely: the traditional and the progressive concepts. The traditional concepts see curriculum as an organized knowledge as well as the body of subjects or subject matter set out by teachers for students to cover; while the progressive concepts recognize the inclusion of the needs and interest of the learner in the curriculum. The present study views OTM curriculum from both concepts because it is an organized knowledge and as well recognizes the needs and interest of the learner (student).

Different types of curricula exist either within or outside the formal school system. These differences are based on design, official recognition and teacher/learners' perspective. They include the following:

- The hidden curriculum (informal)
- Official of formal curriculum
- The teacher-centered curriculum

- The child-centered or activity curriculum
- The core curriculum

The Hidden Curriculum (Informal): The hidden curriculum is the type that is based on unofficial recognition. The hidden curriculum refers to the unofficial, unwritten curriculum of the school or that which is not ordinarily addressed through regular curriculum planning, but which nevertheless influences what and how students learn. It is also seen as unofficial, undeclared and unintentional consequences of how teaching and learning are organized in schools (Pokalastal, 2002).

Official or Formal curriculum: Official or formal curriculum is the type that is based on official recognition. James (2006), maintained that a formal curriculum consists of all planned learning contents which the learner will acquire under the guidance of the school. It is that curriculum which is published and distributed to all schools by the authority concerned.

The Teacher-centered Curriculum: The teacher-centered curriculum refers to the activities planned by the teacher and how he exposes his students to them. It involves more participation from the teacher than the students. In this type, most teachers tend to see themselves purely as source of, and reservoir of knowledge (Pokalastal, 2008).

The Child-centered or Activity Curriculum: It is sometimes called the experience-centered curriculum. It gives full consideration to learners' interest, needs and motivation. The interest of the learner determines what the child will be taught when he will be taught, and the order in which the content will be delivered. It is regarded as the problem solving or learning by doing curriculum. Here, the teacher produces stimulating learning tasks and instructional materials. It emphasizes co-operative learning. It is an approach to learning with flexible ideas and adaptation of curriculum to the needs of learners in a natural setting of human growth and development. It has a very little need for extracurricular features (Ughamadu, 1992 & Eya, 2006).

Core Curriculum

Eya (2006), stated that the core curriculum is used to denote basic studies, general education or all subjects and courses which educational authorities consider necessary for all students. It could simply refer to the unifying subjects and courses which are of interest to both learners and the society. Core curriculum simply refers to an educational experience for all students or those learning that teach the common concepts, skills and attitudes needed by all individuals for effective functioning in society. On the types of curriculum, OTM curriculum is both official/formal curriculum (James, 2006) and core curriculum (Eya, 2006).

According to Eya (2006), if these factors are overlooked or neglected the curriculum will not be relevant to the people it is meant for. Some of these factors are, the learner, the society, psychology of learning, textbook and subject specialists, available resources, external examination, voluntary agencies and proprietors, economy, learning theories, politics, etc. The above statement implies that curriculum planners must not in any way neglect or overlook these mentioned factors since the curriculum itself cuts across learners educational activities and the society, that is, in school and outside the school.

Based on this, the present study seeks to assess the level of the provision and resources utilization of the implementation of OTM curriculum with a view to aiding the curriculum planner on the need for necessary adjustment and modification where the need arises.

Theoretical Framework

Theories and Models

A theory is a set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena (www.thefreedictionary.com). Theory is also a branch of science

or art consisting of its explanatory statements, accepted principles and methods of analysis, as opposed to practice (www.thefreedictionary.com).

Theory is a set of assumptions, prepositions or accepted facts that attempt to provide a plausible or rational explanation of cause and effect (causal) relationships among a group of observed phenomenon. Similarly, a theory is based upon a hypothesis and backed by evidence. It presents a concept or idea that is testable in science. A theory is not merely a guess. It is a fact based framework for describing a phenomenon in psychology. Theories are used to provide models for understanding human thoughts, emotions and behaviour (psychology.about.com/theory.htm). Hornby (2010), defined theory as a formal set of ideas that is intended to explain why something happens or exists, the principles on which a particular subject is based, an opinion or idea that somebody's belief is true, but that is not proved.

According to Glathorn, Baschee and Whitehead (2006), curriculum theory is a set of related educational concepts that afford a systematic and illuminating perspective on curricular phenomena. Similarly, Beanchamp (1981), defined curriculum theory as a set of related statements that give meaning to a school's curriculum by pointing out the relationship among elements and by directing its development.

A model is a systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon. Scientific models can be materials, visuals, mathematical or computational and are often used in the construction of scientific theories (www.thefreedictionary .com.model). A model is also a representation of a system that allows for investigation of the properties of the system and, in some cases, prediction of future outcomes. Models are often used in quantitative analysis and technical analysis and sometimes also used in fundamental analysis (www.investor.word.com/5662/ model/html). The model is the most basic element of the scientific method. Everything done in science is done with models. A model is any simplification, substitute or stand-in for what one is actually studying or trying to predict. Models are used because they are convenient substitutes, the way a recipe is a convenient tool in cooking (www.utexas.../test.html). A model is anything which serves, or may serve as an example for imitation (www.hyperdictionary.com. search.aspe). Hornby (2010) defined model as something such as a system that can be copied by other people.

According to Ile (2000), a model is something to be copied or something to be imitated. Okoro (1991), stated that an evaluation model can be regarded as a set of steps or a system of thinking which if implemented will result in the

generation of information which can be use by decision makers in the improvement of educational programme. He went further to say that evaluation models provide the evaluator with a strategy, plan or framework which can be adopted or modified to suit a particular programme being evaluated. Okoro, revealed that in selecting evaluation models for use, the evaluator should put the following points into consideration:

The appropriateness of the model to ascertain if it can yield adequate information.

The complexity of the model, can it be effectively applied by the evaluator, taking into consideration this experience cost of implementation and other related factors.

Since evaluation is a part of assessment (Hornby, 2010) therefore, evaluate models/theories as stated below:

Tyler's Objective Model

This model was propounded by Tyler between 1933 and 1941. Tyler's objective model consists of the following element; objectives, activity (learning experiences), organization of activities, implementation of the activities and evaluation. Similarly, this model is premised on a deductive approach to curriculum development. This model is considered the best by many

curriculum planners, with particular reference to planning the various phases of outcome-based learning (Olive, 1992, Lovat & Smith, 2003).

In Tyler's types of model, the intended objective of the programme is compared with the actual and result. In other words, children or adult in a programme or project are tested to see if the objectives in regard to acquiring particular ways of thinking, feeling and acting have been achieved (Bhola, 1990). This model of evaluation is concerned with end product of the programme not the process.

This model is synonymous with the goal model described in Arukwe (1999) who said:

> *This is the method of evaluation based on the perception of the staff and students of the extent to which the institution has realized its goals and objectives. The evaluation is made through questionnaire. In other words, this is the assessment of the effectiveness of the institutions concerned* (p.134).

Ile (2000), observed that goal attainment model is also associated with Tyler's approaches to evaluation which identifies three goal sources – the students, the society and the subject matter, and two good screens – a psychology of learning and a philosophy of education. He observed that attained goals indicated a successful instructional programme while unattained

goals indicate ineffectual programme. In the model, the programme is evaluated using its goals and objectives as a standard for judgement.

The implication of Tyler's model to the present study is that it is objective oriented. The present study seeks to ascertain whether OTM curriculum is effectively implemented to enable the graduates achieve the objectives of the programmes which include to equip them with skills for employment in various fields of endeavour. Based on Tyler's model, it implies that implementing OTM curriculum will definitely help the students to achieve the objectives of the programme.

Discrepancy Evaluation Model

This model was developed by Provus (1971) with four components which are determining the curriculum standard, determining curriculum performance, comparing curriculum with standard and determining whether any discrepancy exists between the standards set and the curriculum. Bhola (1990) citing Provus defined evaluation as the art of describing a discrepancy between expectation and performance of a programme. The model operates with standard (S), performance (P), comparison (C), technical programme (TP) and Recycle programme (RP).

This model, according to Afe (1990), describes programme evaluation as the process of defining programme standards, determining whether a

discrepancy exists between some aspects of the programme and using discrepancy information either to change performance or to change programme standard. Afe further stated that the purpose of evaluation is to determine whether to improve, maintain or terminate the programme. The model is not concerned with the judgement rather the identification of discrepancy between standards set and the curriculum. Bhola (1990), observed that the model suggests that discrepancies are to be looked for in different aspects of curriculum covering the design, installation, process of implementation, product, and cost. The present study seeks to assess the level of curriculum implementation whether to modify the curriculum, maintain, improve or terminate it, which is the idea behind discrepancy model.

Context, Input, Process and Product (CIPP) Evaluation Model

This model was developed by Stufflebeam (1971) who reviewed evaluation as a continuous process and suggested that four types of decisions are required in evaluation efforts. The four types are planning decision, structuring decisions, implementing decision and recycling decisions. This model has had a lot of influence on evaluation thinking and procedure in recent years. It has frequently been used as a basic guide in the development of specialized evaluation models for specific programmes (Okoro, 1991), Okoro noted that CIPP model regards evaluation as a continuing process

requiring a systematic programme of implementation and involving a cooperation between the evaluator and the decision makers. The author further explained that *context evaluation* involves studying the environment in which the curriculum is run and maintained that context evaluation is the most basic type of activity that provides a rationale for determining objectives. Okoro affirmed that content evaluation helps to define the relevance of the environment, portray the desired conditions pertaining to the environment, focus on unmet needs and missed opportunities and diagnose the reason for unmet needs.

Commenting on other components of the CIPP model, Okoro (1991), observed that input evaluation provides information for determining how to utilize resources to meet curriculum goals. It evaluates alternative designs in terms of how they will contribute to the attainment of objectives stated and in terms of their demands upon resources, time and budget. It also evaluates specific aspects or components of curriculum plan. Process evaluation addresses curriculum implementation decisions that control and manage the plan or curriculum. Through process evaluation one can determine the level of congruency between the planned and actual activities.

Product evaluation determines whether the final curriculum product in use accomplishes the intended goals and objectives and relates to context,

input and process in the measurement and interpretation of the outcome. Product evolvement is used to determine the effectiveness of programme or course after it has been completed. This model is related to the present study because it seeks to assess the level of implementation of office technology and management curriculum. The study involves the context, input process and product evaluation.

In CIPP evaluation model, data are collected and analyzed for decision-making. Data collected from context evaluation help to determine if the curriculum meets the stated objectives, the data from input evaluation help to identify strategies for desired changes in the curriculum. Data from process evaluation help to examine the procedure for curriculum implementation while the data from product evaluation helps to ascertain the quality standards of the programmes. All these will determine whether to continue, terminate or modify a curriculum.

Based on this analysis, the researcher concludes that in order to assess the level of provision and their utilization of implementation of office technology and curriculum, there is need to use any of the evaluation models discussed because of their relevance and application to the current study.

Theoretical Studies

Types of teaching Equipment/Facilities Available for Office Technology and Management

The availability and use of relevant facilities are necessary in carrying out any task especially in teaching and learning. These facilities are of great importance to the teachers since the availability of these facilities determines instructional effectiveness. Teaching facilities/equipment could be referred to as those sets of materials which enable a teacher to impact knowledge to the learners in a more vivid manner. Nichollas (2000), defined teaching facilities as those items that have intellectual content and, by design, assist in the instruction of subject or course. Dike (2002), saw it as a set of materials, which a classroom teacher can use to extend the range of various experiences of his learners.

Oguranti (2005), defined teaching facilities as resources or teaching materials which the teacher utilizes in the course of presenting a lesson in order to make the content of the lesson understandable to the learner. Ozioko (2004) posited that teaching materials represent all the alternative channels of communication, which can be used to compress and represent information in a more vivid form to learners.

Ezenwafor and Ndinechi (2003), affirmed that teaching materials increase the rate of learning, save teachers' time and efforts, increase learners' interest in the subject and facilitate retention of what is learnt. They further stressed that the use of instructional materials or teaching facilities by teachers give definitiveness to students' ideas, give vividness to explanation and make teaching more exact and thorough. Also, the authors stated that instructional facilities are things that appeal to more senses in learners and enhance the methodology adopted by the teacher and include objects that could be touched, seen, heard, smelled or tasted. A teacher who is adequately equipped with relevant equipment and facilities can achieve very much in his class (Azuka, 2003).

Azuka (2003), asserted that availability of instructional resources influences the selection of teaching methods and strategies. According to Azuka, these materials and equipment help to add stimulus to teaching and learning of skill subjects. For instance, learning of shorthand and typewriting is enhanced by the use of tape recorders, slide, projectors, dictating machines, audio machines, typewriters, stop watch and radio cassettes. Notwithstanding, the vital roles of teaching facilities and equipment, Ukeje in Azuka (2008), observed that since 1976, almost everything in Nigeria's institutions are in short supply-classrooms are in short supply, equipment are in short supply,

even money to provide the barest necessities is now in short supply. What Ukeje observed, is still on till this date. Most polytechnics in Nigeria are not provided with relevant equipment and facilities for instruction and one wonders how the learners/students will be able to meet up after schooling with modern techniques in offices, industries, organizations, even in business transactions. When a teacher is handicapped in terms of instructional facilities and equipment, he makes do with what is available and that which may be available at that point in time may not be able to assist him positively thereby hampering teaching effectiveness. Thus, teaching facilities could be seen as a carrier of instruction from the teacher to the learner.

Agun & Imogie (2002), defined instructional materials as information carriers designed specifically to fulfill objectives in teaching-learning situation. Okorie (2007), defined instructional materials as any device that assists the instructor to transmit to the learner, facts, skills, attitudes knowledge, understanding, and appreciation. Okorie further called instructional materials potent starter and motivators in teaching and learning. Onyejemezie (1981), affirmed that instructional materials play very important roles in teaching and learning by making teaching real and relevant. They make learning permanent and recalling easy. If OTM students are to be taught well, they should be

taught practically and the use of instructional materials by the teacher in the course of teaching should be strictly adhered to for more effective learning.

Attah (1993), asserted that it is improper and unpardonable to make students practice on wrong devices or outdated equipment that may never be adopted by the business office. The implication of this statement is that when you learn/practice with wrong device or outdated equipment, you will definitely discharge your duties/functions wrongly in your place of work. Instructional materials are central in the process of teaching and learning and can never be over-emphasized just as farming equipment is to farmers.

Various writers/authors classify instructional materials in different ways but the most important thing is that they covey the same meaning. Eya (1999), classified instructional materials into three categories: graphic or non-projected materials and equipments. Ajelebi (2000), classified them into audio-media, visual-media and audio-visual media.

Audio media are teaching and learning devices that mostly appeal to the sense of hearing. They include public address system, tape recorder, talking drum, radio cassette and so on. Visual media are teaching and learning devices that mostly appeal to the sense of seeing only. They can be sub-divided into projected and non-projected media such as films, slides, (projected) and posters, regalia globes and pictures (non-projected). Audio-

visual media are those instructional materials which provide learners with opportunity of seeing and hearing at the same time. Examples are educational television and closed circuit television.

Okwuananso & Nwazor (2002), classified instructional materials into: print media, graphic media, photograph media and electronic media. Print media are types of teaching resources or materials used in business education class of which OTM is a part and include textbooks, papers, notes, brochures, theses, dissertations, pamphlets, diaries, fly sheets, folders, tabloids, magazines, newspapers, among others.

Graphic media are materials usually displayed or projected, such as charts, maps, posters and hand-bills used for advertisements, announcements and illustrations of all sorts. Others are bulletin board, notices on board, diagrams, over-head transparencies and chalkboard displays. Photographic media consist of still pictures, opaque pictures and slides, which may be in black and white or coloured while electronic media are audio tapes and video tapes.

Osuala (1987), listed such instructional materials as comprising typewriters, tape recorders, franking machines, addressing machines, calculation machines, counting machines, dictating machines, electric computers, punched card machines, collating machines, duplicating machines,

photocopying machines, telephone and telex machines and lithographic machines. Agbo (2003), identified machines used specifically in handling mails which include folding machine, inserting machine, laminating machine, letter opening machine, guillotine, addressing machine, envelope sealing machine, stapling machine, shredding machine and facsimile machine.

The National Board for Technical Education [NBTE] (2005), recommended equipment required for the National Diploma/Higher National Diploma (ND/HND) OTM as the instructional materials for effective instruction in the programme. The list includes typing laboratory which consists of one manual typewriting laboratory with 35 manual typewriters; at least one typewriter per student and five as standby during practical, but where there are more than two streams of National Diploma (ND) classes, an additional 35 manual, one electric/electronic typewriting laboratory with 35 electric/electronic typewriters should be provided for use in ND II. One electronic typewriter per student and five as standby or one computer laboratory with 35 computer units and accessories plus internet connection. Also where there are more than two streams of ND II classes, an additional 35 electronic typewriters or 35 computers should be provided.

For the Higher National Diploma (HND) level, one computer laboratory with 35 computer units and accessories plus internet connection but where

there are more than two streams of HND classes, an additional computer laboratory with 35 computers should be provided. For speed development, one shorthand laboratory which should be equipped with a central transmitting unit, transistor and receivers or any other suitable media with 3 – 4 multi selection channels, 31 head phones and 31 microphones. This laboratory should have at least 30 cubicles to accommodate 30 students at a time NBTE (2004). For office practice room the NBTE (2004) recommended practice room, five variety of typewriters (manual/electronic, long and shorthand carriage), one ink duplicating machine, one photocopier, one steel filing equipment with four drawers and accessories, one shredding machine, two personal computers with word processing equipment. Others are two electronic desk calculators, one telephone set equipment, one handset and refill cards, one fax machine, one letter opening machine, one guillotine, one scanner, one addressing machine, staplers, punch machine. Also there should be one radio cassette player, one coloured television, one video machine/video CD, one magic board multimedia projector system, slides, one microfiling camera + 12 digital camera, flopping diskettes, compact disc among others.

All the listed instructional facilities/equipment are not meant for academic staff only but for both the academic staff and students for teaching and learning OTM courses. Most of these facilities/equipment are to be

displayed either in model office practice room or speed development laboratory (NBTE, 2005.) This is to enable students develop their skill in typing/keyboarding and have practical experience of what an ideal office looks like or what is obtainable in business offices (NBTE, 2005).

The provision of these relevant instructional equipment and facilities in every OTM department, is no doubt, of great importance.Just as the stethoscope is to a medical doctor and farming tools to a farmer, so are instructional facilities to OTM implementers both lecturers/instructors and students. This is because the mastery in OTM courses will not be easy if not impossible without the use of relevant instructional facilities by both teachers and students. An academic staff in OTM cannot teach keyboarding effectively without using the computer or teach office practice without using machines in the model office practice rooms. This affirms that instructional equipment and facilities are indispensable in OTM courses.

In Onyejemezi (1991), he pointed out the need to use learning resources and highlighted the benefits of instructional materials to include inspiring students to be more curious serving as a source of finding answers to questions and serving to make concepts more real to students. Onyejemezi maintained that one of the principles that teachers have continually borne in mind is that man learns through his senses. Some learn better by one or more

of the senses. To some, seeing is believing and to others the sense of touch, hearing, smell and taste dominate in acquiring knowledge.

For intended learning to take place, the teacher must communicate effectively with the learner. In order to achieve effective communication process that enhances clear understanding, a wide range of transmitting message to the students must be selected and utilized for effective performance. In addition, proper selection of instructional materials is a necessary step to effective teaching. In other words, the ability to select and utilize methods and materials is an important quality of a professional teacher. Onyejemezi outlined the criteria for selecting resources to include instructional objectives to be achieved by the students, the teaching resources available, the characteristics of students to be taught, the teacher's ability and experience. Castaldi (1994), asserted that educational facilities enable a skillful teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided.

Also, Ile (2001), explained that teaching facilities help to stimulate interest, facilitate comparison and give movement and continuity to the teaching/learning process. He maintained that where they are effectively utilized, they generate greater students' interest in the learning system and assist in the retention of ideas. He cited Ulinfun (1987) who pointed out that

learning would be less meaningful without the use of teaching facilities and students would grope in darkness for long before they can get a grasp of what the teacher is saying. The foregoing elaboration on instructional equipment/facilities buttresses their importance in teaching and learning of OTM courses as well as the need for their availability and adequacy in the department. It could be derived from the above statement that if these tools are adequate in respect to the recent technological developments, it will go a long way in sustaining the interest of the OTM teachers and students in teaching, learning and the objectives and goals of the curriculum will be achieved. It will also equip the graduates with the appropriate skills needed to function in modern offices.

Facilities like shorthand laboratories, typewriting laboratories, computer laboratories and model office practice rooms are recommended by the NBTE for OTM programmes. As a skilled programme, the NBTE specifically stipulated the number of each type of equipment/machines for OTM classes to be in the same number with the students so that each student can use them for class and personal practice.

Unfortunately, however, most polytechnics in this country are poorly equipped. They do not have enough laboratories and machines in model office practice rooms and where they exist they are never equipped with necessary

facilities for practical learning. Situations like this make a jest of the OTM programmes, lecturers who are the implementer and students because lecturers are denied the opportunity of imparting the relevant practical job skills in the students and the students are denied the opportunity of acquiring necessary skills to operate various machines in modern business offices. This implies that the students on graduation will not perform to the expectations of their employers. This is why Ezenwafor (2009), asserted that changes in today's office environment brought about by increased computerization and advances in information technology leave no doubt that if students are not trained with the equipment they will use in the workplace on graduation, they cannot perform to their employers or supervisors' expectation or satisfaction.

The NBTE (2004), recommended that there must be enough text books to cover all OTM courses in the library. Best (2004), opined that instructional materials are materials used within the classroom and include both basic text and supplementary materials. These cover all the materials circulated from school library for teachers/students use, including books, audio and video sources, computer programmes among others. Best also stated that a textbook is a systematic arrangement of subject materials designed to assists the instructor in teaching particular content to student at a specific grade level. The author maintained that in no other one place can the teacher or the

student find an equivalent concentration of course related materials. However, Best observed that if the teacher selects a poor text or uses a good text poorly, unsatisfactory learning may result. Therefore, to avoid misusing the text, the teacher should first of all know what a textbook is not as outlined below:

- It is not the teacher
- It is not the course
- It is not the teaching plan
- It is not a device that will enable the incompetent teacher to appear competent.
- It is not the only book with value for the course
- It is not a substitute for all other teaching materials
- It is not a devise for self-directed learning
- It is not equally suitable for all kinds of students
- It is not a device for performing the lazy teacher to escaped work. Best (2004)

Best (2004), added that a well-organized textbook contains some of the best teaching materials, provides suggestions for specific point worth considering and suggests a possible range and sequence of units for the course. This implies that textbooks are very essential in any educational

system and should be provided in the right quantity and quality for the use of both teachers and students. This goes to buttress the need for stocking school libraries with quality text materials not just mere text materials which will enhance the quality of instruments and learning outcome. Textbooks guids the teacher and enable students to read at their pace with their mates and even at their leisure, rather than depending on their teacher for virtually everything.

Unfortunately, OTM programmes experience lack of quality indigenous text materials, especially for some of the new courses. Consequently, both lecturers and students resort to the internet for information, but, most of the time, the materials retrieved have foreign background where some acronyms like OTM means entirely a different thing to what it is in the country.

Staff Qualification and Recruitment

For the ND and HND curriculum, the NBTE (2004), recommended minimum academic qualification of Higher National Diploma Certificate in secretarial studies with at least lower credit or first degree in business education with second class lower division and a teaching qualification of Post-Graduate Diploma in Education (PGDE). The document also specified that staff requirement should be between 15 to 20 teaching staff depending on whether it is a single stream or double stream of ND/HND including at least two computer degree lecturers. NBTE (1993), had earlier stressed the importance

of instructional staff by observing that the teaching staff adequacy in number, competence and mix and the standard of instruction that they maintain in all subject areas is crucial to the programme. Generally, the teaching staff determines the adequacy and quality of the programme, therefore, instructional goals and objectives are achieved only to the level of their competence and vision.

UNESCO (1998), in a report on personnel development for quality technical and vocational education, stated that the quality of technical and vocational education, like that of any form of education will depend to a large extent on the quality of its managers, supervisors and executors. This means that personnel of the right quality will be needed for policy/planning/administration, curriculum and material/development, supervision, teaching, guidance and counseling. The point is worth emphasizing that while national education systems need to train and retrain classroom teachers of vocational technical education, they also need to train and retrain all other categories of personnel.

As an education for work, successful implementation of vocational technical education and OTM education programmes requires that all human and material resources be given adequate attention. Some of the techniques of achieving effectiveness in OTM programme include good planning,

preparation for teaching, organisation of facilities, sequencing of learning, imparting knowledge before skill, relating teaching to work situation, providing work experience, providing for an evaluation and review of programmes based on feedback information (Olaitan, Nwachukwu, Onyemechi, Igbo & Okong, 1999).

Ben (2006), affirmed that instructional personnel, especially in skilled programmes of polytechnics, should be good teachers as well as good managers. The author explained that the reason is that most of the teaching is done in workshops or laboratories with vast assortment of tools, machines, equipment and materials. It becomes necessary that the instructional personnel should organize and manage their workshops or laboratories well if they are to teach effectively.

To ensure effective implementation of OTM curriculum in Nigerian polytechnics, there is need to engage a group of qualified, skilled and competent lecturers, instructors and technicians/technologists whose duty is to prepare the students both in theory and practical. Yusuf (2000), stated that the quality of an educational system hinges on the quality of the teachers. The most important factor in an educational process is the teacher. If teacher is bad, his product (students) must be bad because when the students have not learnt, the teacher has not taught. The quality of the teacher determines the

quality of the academic programme as well as its product which reveals how well the goals and objectives are being achieved.

However, Okafor (2001), observed that it is the teacher's personal qualities and character, educational qualifications and professional competence that the outcome of all educational endeavour must ultimately depend on. Olalebo (2001), also affirmed that teachers are the key persons who alone can make the curriculum achieve what it was designed to achieve. This implies that the qualification and ability of the teachers are the most important elements in the success of any educational programme. For any training programme on teacher education to guarantee quality of its products, it is essential that lecturers should be able to demonstrate relevant skills at mastery level. The qualities and competencies that a professional teacher should have are those that promote effective teaching and learning, transform the teaching and learning environments and value the learners as having capability to achieve their full potential.

Ilukena (2000), stated that effective teaching is one of the central purposes of educational practice and research since there will not be mastery of learning without mastering of teaching. Understanding teaching has presented persistent and formidable challenges to those who have sought to improve the quality of teaching and learning over the years. Teachers are

important and make a difference. The quality of teaching is a crucial factor in promoting effective learning in schools.

William (1996), opined that what happens in the classroom determines the quality of school. In other words, teacher's roles go far beyond information giving. Esene (2011), observed that teaching is an art in the sense that teachers, like painters, composers, actresses, and dancers, make judgements based largely on qualities that unfold during the course of action. Qualitative forms of intelligence are used to select, control and organize classroom qualities, such as tempo, tone, climate, pace and movement. The teacher must notice the emerging qualities and respond with what he/she wishes the students to take. In the process, qualitative judgement is exercised in the interest of achieving a qualitative end.

Regarding the essential qualities of a good teacher, Birte, Dugmar, Berit & Kiel (1996), listed the following as qualities teachers need to survive and succeed in daily tasks:

- Organisation and planning
- Use of different methods to liven up lessons and sustain students' attention.
- Stimulating students' interest in the subject
- Conveying information and involving students

- Patience

Hannah & Kiel (1996), opined that a teacher needs self-confidence and knowledge about the teaching subjects but that the most important thing is that a teacher should enjoy teaching, be enthusiastic and have a true interest in the students. Zaira (1996), posited that the teacher is to the students what the rain is to the field. Buttressing the point, Omar (1996), opined that a good teacher answers the needs of the pupils and not only the need of the chosen programme. All these emphases boarders on the qualities, a quality teacher exhibits.

Furthermore, Sheeba & Buraidha (2003), grouped essential qualities a teachers should have into three, namely: background knowledge, professional skills and personal qualities. They explained that the saying "Give me a fish and I eat for a day, teach me how to fish and I eat for a life time" should be a philosophy of a good teacher. The authors affirmed that a good teacher should be patient and kind, flexible and resourceful, tolerant and open minded with a good sense of humour, enthusiastic and enjoys teaching, honest, imaginative and creative, efficient, self-disciplined, helpful, humble and modest.

Aremu (2007), asserted that a good teacher will offset deficiencies in curriculum, textbooks and equipment. Ile (2000), citing Hutchinson and

Young affirmed that a high quality teacher is a sine qua non to a first class system of education. He observed that although modern schools and equipment can be designed, new universities and colleges built, new concept of secondary education organized, without an adequate supply of high quality teachers, all the effort will be wasted. This further buttresses the fact that for the curriculum to be implemented effectively, adequacy of teachers in quality and quantity must be ensured. Medley (2002), referred to teacher competence as the set of knowledge abilities and beliefs which a teacher possesses and brings to the teaching situation. It is the relatively stable qualities/characteristics of the teacher that does not change appreciably when the teacher moves from one situation to another. Competency is thereby defined in terms of what the teacher knows and believes or can do.

Teacher quality or effectiveness is almost synonymous with teacher competence. It is the degree to which the process of teaching will produce the desired results. Teacher quality depends on the degree of competence exhibited by teacher. It refers to effectiveness of teaching method and processes, good use of teaching aids and exhibition of good knowledge of subject matter. In support of the afore-mentioned, Crawford (2003), opined that the teaching competence of a teacher is a major parameter of teaching

effectiveness and can be inferred from such parameters as the knowledge of subject matter and use of teaching methods.

Gohen & Garner (2004), stated that the competent teacher should be able to put into practice the psychology and principles he has learned theoretically in the school. Coper (2005), believed that the competent teacher should be able to apply the principles of the professional courses taken to the teaching and learning process in order to bring about meaningful changes in the learners. Yoloye (1993), stated that a competent teacher is one who is able to display those skills and the behaviour expected of him. These skills and behaviours are used to guide learning process to the point of achieving stated educational objectives. These skills and behaviour are:

- Understanding of the nature, interest and needs of the learners
- Adequate knowledge of the subject matter
- The use of good quality, appropriate, relevant and effective instructional aides.
- The ability to communicate effectively.
- The ability to control and manage the class

Afe (1990), stated that the competent teacher should be able to determine suitable teaching methods and instructional materials based on the learners, the topic to teach and the lesson objectives. During presentation, the

competent teacher has a logical method of introducing the lesson, sequencing and concluding it while applying class management and control techniques and exhibiting good personality and good mastery of subject matter and using suitable techniques. No wonder Orubu (1990), emphasized that teaching has developed beyond the level at which anybody who can handle the chalk could be called a teacher.

Every profession worthy of the name derives its professionalism precisely from the fact that its members possess a special quality, expertise not present in non-members of the profession. This means that the quality of any system especially education system, depends on the quality of personnel/teachers. Onwegbu (2002), opined that a teacher can be competent if has the following:

- A thorough or adequate knowledge of the subject matter.
- The know-how with which he has to impact the said knowledge to learners
- Adequate understanding of the learner to whom the knowledge, skill or behaviours to be imparted or whose behaviour are expected to be changed, modified or built-up and nurtured.

- A truism that could not be over-stated is that a good/quality teacher must be one who loves teaching. From this we can derive the following corollaries.

  Vanmanen (2001), opined that

  - A good teacher is one who cares about his/her students, especially about how they are learning/internalizing the skill/knowledge/concepts/ attitude which he/she is so passionately teaching. In addition, a good teacher should have:
  - The sensitivity to interpret the inner thoughts understanding and feeling of the students.
  - The reflective ability to interpret the pedagogical significance of the inner feelings mentioned above.
  - A sense of standards, limits and balance that makes it possible to know almost automatically how far to enter into a situation and what distance to keep.
  - Moral intuitiveness – the ability of instantly sensing what is the right or good thing to do.

Based on the above opinions from various scholars, we have seen all that it takes to become a quality, good and effective teacher. This reveals that it is not only the educational background, knowledge of the subject matter

that makes other ingredients that should be added to it before one can beat his/her chest and confirms that this person indeed have all it take/or is needed of a quality teacher. Hiring a qualified and competent teacher today, especially for OTM programme, is difficult. The reason is that most of the teachers studied course in line with the old curriculum under the secretarial programme. Most of the secretarial courses have been modified and even new courses introduced under the new OTM curriculum in line with information and communication technology (ICT), courses are being taught by lecturers from computer department who have neither the pedagogy nor keyboarding skills. This means that lecturers and instructors are made to teach outside their area of specialization and, as well, without applying the right teaching methods. This implies that since the right teaching methods are not properly applied in the teaching process, the students learning outcome will be seriously affected.

Equipping students with employable skills is the main responsibility of instructional personnel. It is certain that the qualities of today's teachers will affect the citizens of tomorrow. This is why it is very necessary to have professionally skilled, competent and efficient instructional personnel to enhance the realization of the dreams and expectation of OTM curriculum in our industries, offices and Nigeria at large. Jen (2006), stated that for instruction to be effective and lead to employment of graduates, instructional

staff must be qualified with technical competence and pedagogical capability. This implies that for the instruction to be effective, the teacher should possess the skills and knowledge to be taught. The teacher should also master the contents of the sills to be taught in order to give the student the adequate repetitive training required for development of right habits, and knowledge necessary for employment; It is a well known phenomenon that no teacher can impart the skill that he/she does not possess. It is not an over statement to say that teachers are critical factors for curriculum implementation and the development of a nation. In agreement, Ukeje (2002), affirmed that teachers play vital roles in the development of a functional society, through the facilitating of a relevant and effective educational delivery system.

Curriculum Components of OTM

Curriculum components simply mean classification of a programme into various parts or segments. Hornby (2010), defined curriculum components as one of several parts of which something is made, the components of a machine, the car component industry.

As a programme of study, OTM can be classified according to the group of course areas and course curricular contents as in the general education course and professional courses. Osuala (2002), viewed business education, OTM included, as a programme of instruction, which consists of two parts,

office education, and a vocational education. Education programme for office careers through initial refresher; and upgrading education and general business education, a programme to provide students with information and competencies which are needed by all in managing personal business affairs and in using the services of the business. Atakpa (2000), in support of this view asserted that business education, OTM also included could be sub-divided into two parts; vocational (education for business and general education (education about business). Atakpa (1999), also stated that business education is a wide discipline that encompasses a number of specialist areas such as stenography or secretarial studies but OTM covers marketing and distributive education. Aliyu (1999), equally stated that business education is an umbrella under which all business management programmes form part and parcel of. It includes business administration, marketing, purchasing and supply, accountancy, secretarial studies or office technology as well as banking and finance.

According to Okoro (2009), OTM programme incorporate the following six components in its design: office application, office technology, business and administrative management, numeric component, general studies and supervised industrial work experience scheme (SIWES). He said the design of the OTM programme components also appears to be a response to a global

initiative with an objective that portends new academic direction in favour of information and communication technology (ICT).

However, NBTE (2004), specified that the OTM curriculum consists of four components for the National Diploma/Higher National Diploma (ND/HND) namely:

- General studies/education
- Foundation courses
- Professional courses
- Supervised industrial work experience scheme (SIWES).

The general education components include courses in citizenship education 1 and II, communication which are compulsory. The general education component shall account for not more than 15 percent total contact hours for the programme. Foundation courses include – courses in economics, business mathematics, business administration, accounting, Nigeria legal system, and entrepreneurship. Foundation courses should accounts for 10 – 15percent of the contact hours of each semester.

Professional courses are courses which give the student the theory and practical skills he/she needs to practice as a secretary. It could also be referred as core courses offered by OTM department. They include shorthand, keyboarding, office practice, information and communication technology (ICT),

modern office technology, career development, desktop publishing, record management, web page design, people communication skills, supervised industrial work experience scheme (SIWES), and projects. These courses may account for between 60 – 70percent of the contact hours. Supervised industrial work experience scheme (SIWES) should be taken during the long vacation following the end of the second semester of the first year. For the purpose of final evaluation, SIWES shall account for 5 percent of the total marks. These components are broken into semester course code, course title and credit hours. For National Diploma programme, four semesters are involved and 26 courses offered. These courses include both general courses and office technology and management core courses.

The curriculum prescribed the OTM courses for National Diploma (ND) 1 first semester as follows: Technical English 1 (OTM 101), Citizenship Education (GNS III), Introduction to Business (BAM III), Shorthand 1 (OTM III), ICT 1 (OTM 113), Office Practice 1 (OTM 114) and keyboarding (OTM 112).

For National Diploma (ND) 1 second semester courses are: ICT II (OTM 214), Citizenship Education II (GNS 121), Introduction to Entrepreneurship (BAM 126), Principle of Law (BAM 113), Career Development (OTM 122), Shorthand II (OTM 121), Modern Office Technology (OTM 124), and Touch Keyboarding (OTM 123).

The curriculum prescribed the OTM courses for National Diploma (ND) II First semester as follows: Technical English II (OTM 217), Research Techniques (OTM 228), Shorthand II (OTM 211), Record Management (OTM 213), Office Practice II (OTM 215), Desktop Publishing (OTM 216), and Principle of Accounting (ACC 111).

For National Diploma (ND) II, second semester courses are: Social Psychology (OTM 227), Principle of Economics 1 (BAM 114), Web Page Design (OTM 221), Communication Skills (OTM 222), Project (OTM 225) and Small Business Management (OTM 226).

For Higher National Diploma (HND) First Semester, the courses are: Shorthand IV (OTM 321), ICT Office Applications 1 (OTM 313), Office Administration and Management (OTM 314), Business Communication 1 (OTM 315), Social Psychology (OTM 316), and Business Law (BAM 214).

Second Semester Higher National Diploma (HND) 1 courses are: Research Method (OTM 325), Nigeria Labour Law (BAM 427), Professional Career Development (OTM 322), ICT Office Applications II (OTM 323), Office Administration and Management II (OTM 324), and Human Capital Management (BAM 324).

First Semester Higher National Diploma (HND) II course are: Advanced Transcription (OTM 411), Business Communications II (OTM 411), Business

Communications II (OTM 412), Database Management System (OTM 413), Oral Communication Skills (OTM 414), Elements of Human Resources Management (BAM 224), and Advance Desktop Publishing (OTM 415).

Second semester HND II courses are Management Information Systems (OTM 423), Professional Ethics and Social Responsibility (OTM 424), Entrepreneurship (BAM 413), Advanced Web Page Design (OTM 425), Nigerian Labour Law (BAM 427), and Project (OTM 422) (National Board for Technical Education [NBTE], 2005).

Based on these courses offered at National Diploma and Higher National Diploma (ND/HND) levels in the OTM programme, it could be seen that some courses are offered at both levels and semesters, while some are for a particular semester and a particular level. Courses like shorthand is being offered for three semesters at the ND level, that is, first and second semester ND 1 and the first semester of ND II. It does not stop there, it cuts across HND level, first semester HND 1. From the foregoing, it could be seen that the importance attached to shorthand agrees with Okeke's (2004), observation that shorthand is as old as the secretarial education curriculum in different parts of the world, and Ezenwafor (2009), stated that shorthand is the bedrock of stenography which enables confidential secretaries to write spoken words at such a high speed as 100 and 120 words per minutes which is

practically impossible in longhand. Similarly, Igbinoba (2000) listed shorthand as a major technical skill required of confidential secretaries for effectiveness.

Keyboarding is offered at two semesters in ND 1 first and second semester and keyboarding stops at this level without cutting across HND level. One would have expected keyboarding to have cut across the four semesters at ND level and equally continued at the HND level of four semesters because the keyboarding/typewriting skill is still needed even at this level. No matter the level or the kind of machine, typewriter or computer, keyboard stands and will for now continue to perform the same function as an input device in all and also a major part common to all. The difference between typewriter and computer keyboard is that the computer is with additional functional keys. This implies that keyboard is the only way out to input any data or information into the computer or typewriter, hence the need for keyboarding skills. It support of this view Oriola (2007), affirmed that typewriting is still much needed and should be taught on machines that are in use in the real world. He further maintained that there is need to review downwards the weighing of shorthand in favour of typewriting. He also opined, that going by the present technological development, the curriculum should emphasized teaching and learning on modern electric/electronic typewriters for achieving proficiency in word processing and other computer related courses.

Information and communication technology (ICT) courses offered in office technology and management programme cut across the National Diploma (ND) and Higher National Diploma (HND) levels with the highest units. They include – ICT II for ND 1 first semester and second semester, desktop publishing and Webpage design for ND II first and second semester, ICT office application 1 and II for HND I first semester and second semester, database management systems, advance desktop publishing, management information systems, advanced webpage design for HND II first semester and second semester. This is as a result of new development in technology and the need to equip graduates with the necessary ICT skills needed of them in the world of work. Supporting this, United Nations Education Scientific and Cultural Organisation (UNESCO, 2002) had earlier advocated that technical and vocational education should be a vital aspects of the educational process in all countries, given the immense scientific, technological and socio-economic developments, either in progress or envisage, which characterize the present era, particularly globalization and the revolution in the information and communication technology.

This may be the reason why National Board for Technical Education embarked on a comprehensive review of all minimum guide curricular from 2007, in order to radically transform the polytechnic programmes to meet new

technological and socio-economic trends and demands of the world of work. No wonder Kalmbach (1996), declared that "we are currently in a worldwide revolution, moving from the industrial age to an era in which information is the primary product". The ability to interact with the computer is an essential skill for the information age. In agreement, Otobo & Makeri (2002), opined that graduates who will be future secretaries must be computer literate and should be able to demonstrate new skills and manipulate all equipment relating to the computer.

The issue here is not having various ICT courses in curriculum but the extent to which the intended ICT skills are learned and applied in the world of work. Furthermore, the current new technological changes and innovations, especially in the work place is said to be raising the average skill requirements of jobs. As a result Rumberger (2003), advised that students should be equipped with skills that better prepare them for the demands of the present and future work roles. Supporting this Ejeka (2000), laments that in the present age, the illiterates are no longer those who cannot read and work but those who cannot use the computer and harness the tools provided by ICT, describing computer technology as a catalyst that hastens events. Wahab (2005) also posited that office work now requires increased understanding of the way computers link business to business and people to people. In line with

this, Anuobi (2005), stated that graduates may only be employed in contemporary office if they are ICT compliant.

Review of Related Empirical Studies

Related studies on implementation of OTM curriculum are not many. However, some have been identified and reviewed in this section.

Esene (2011), carried out a research titled "Evaluation of the NBTE new office technology and management curriculum for Nigeria polytechnics: An analysis of entrepreneurship development". The purpose of his study was to find out among others, the subjects offered and taught in Nigeria polytechnics, the general objective of the new OTM curriculum, the reason why OTM graduates go into entrepreneurial programme. The research question that guided the study was what are the subjects offered and taught in Nigeria polytechnics? What are the general objective of the new OTM and reason why OTM graduates go into entrepreneurial programme? His area of study was polytechnics in Delta State. Population of the study was 57, 35 OTM lecturers and 22 graduate entrepreneurs as his respondents. The researcher used descriptive survey design. The instrument for data collection was a questionnaire, data were analyzed using mean statistics and z-test used to test the null hypotheses. The researcher found out that OTM graduates need entrepreneurial skills and competencies for successful entrepreneurial

ambitions. His conclusion was that the NBTE new OTM curriculum is meant to remedy the shortcomings inherent in the old secretarial studies curriculum and therefore, recommended that there is need to continually review, revise and adjust the OTM curriculum in order for the OTM graduates to face the changes and challenges posed by the era of automated office. The current research is related to Esene's study in the sense that it focuses on the assessment of the level of implementation of OTM curriculum in polytechnic in south-south Nigeria while Esene's study focused on the NBTE OTM new curriculum in line with entrepreneurship development, Esene used OTM lecturers and OTM graduate entrepreneurs as his respondents while the present study used lecturers that are the OTM implementers as her respondents. Esene (2011), failed to use the OTM instructors but grouped them together as lecturers, which is a very big oversight because in any office OTM department there must be instructors. However, the current study took care of it and involved the instructors in the study. Esene's study covered only Polytechnic in Delta Sate while the present study covered polytechnics in south-south Nigeria.

Okwuananso & Ademiluyi (2010), conducted a study on the assessment of the influence of NBTE accreditation on the physical facilities and the equipment of polytechnic office technology and management programme. The purpose of their study was to determine the extent to which NBTE

accreditation has positively influenced, on a sustaining basis, the quality of physical facilities and equipment of OTM programme. The research question that guided the study was to what extent has NBTE accreditation exercise positively influenced the physical facilities and equipment quality indicators in polytechnic OTM programmes? The researchers used descriptive survey. The population of their study consist 175 of all academic staff members of the OTM departments of all accredited polytechnics in the South-Western geopolitical zone of Nigeria. The research questions were analyzed with mean ratings and standard deviation while the hypotheses were tested at 0.05 level of significance using z-test. They found out that most of the physical facilities and equipment of OTM programmes have been influenced by NBTE moderately. Their conclusion was that NBTE accreditation of polytechnic OTM programmes has had only a moderate influence on the indices of physical facilities and equipment. Also, private polytechnics OTM programmes have are much better than public polytechnics in the area of physical facilities and equipment. Their recommendation was that NBTE accreditation officials should be more diligent in the dispensation of examinations or relevant facilities and equipment. Visitation panel should not hesitate to deny accreditation to any OTM department which falls short of minimum standards. Okwuananso & Ademuluyi's study is related to the present study in the sense that both

focuses on assessment of the OTM programme in Nigeria Polytechnics and respondents as academic staff members of the OTM programme. While they wanted to find out the influence of NBTE accreditation on sustaining basis, the quality of physical facilities and equipment of polytechnic OTM programme in South-western geopolitical zone, the current study wants to find out the assessment of the provision and resources utiization of the implementation of OTM curriculum in polytechnic south-south Nigeria. In other words, the current study assessed the level of OTM curriculum implementation. Okwuananso & Ademuluyi's study did not find out whether the physical facilities and equipment are available in OTM department this is an over sight which this current study covered.

The work of Okoro (2010), titled "Perception of business teachers regarding polytechnics' readiness for implementing office technology and management curriculum". The purpose of the study was to ascertain whether the implementers of the OTM curriculum were ready academically, technological, psychology, and whether the polytechnic management were ready to provide infrastructure to enhance the implementation of the OTM programme. The research questions that guided the study were: In what ways were the implementers of OTM curriculum academically, technologically, psychologically ready", and whether the polytechnic management are ready in

the provision of infrastructure to enhance the implementation of the OTM programme. The researcher used descriptive survey design. The area of study was all the polytechnics in north-eastern Nigeria. The population of his study comprised 110 of all the OTM lecturers who were the curriculum implementers in the polytechnics of north-east geo-political zone. The instrument for data collection was a questionnaire. Mean was used for analyzing the research questions while z-test was used to test the null hypotheses. The researcher found out that there was urgent need to recruit competent information communication technology teachers and the need for the supply of adequate and modern equipments for training secretaries on information and communication technology. Okoro concluded that teachers were not ready in the areas studied including academically, psychologically and technologically and the polytechnic management were also not ready in the provision of required infrastructure and equipment. His recommendation was that the policy makers should include all the modern packages in information and communication technology in curriculum and information and communication technology and that teachers should expose the secretaries to enough practical works. The present study is related to Okoro's study in the sense that both focused on OTM curriculum and implementers of OTM programmes as their respondents. While Okoro's study focused on perception of polytechnic

business teachers readiness for OTM curriculum, the current study is on assessment of the provision and resources utilization of the implementation of OTM curriculum in polytechnics in south-south Nigeria. Okoro's study did not use OTM instructors he grouped them as lecturers but the current study took care of that.

Adegbenro (2005), conducted a study to assess the implementation of information and communication technology programme for secretaries at the staff training centres in south-western Nigeria. The purpose of his study was to ascertain the adequacy of competent human resource for teaching of information communication technology (ICT) at the centre, model training equipment and facilities and utilization of modern resource for implementing the ICT in staff training centres. The research questions that guided the study were how adequate are the human resource for teaching information technology? How adequate are the training equipment and facilities and how adequate are the material resources utilized for the implementation of ICT? The area of study is south-western Nigeria. The design of the study was descriptive survey. The population of the study comprised 143 secretaries in three government staff training in south-western Nigeria. The instrument for data collection was questionnaire. The data was analyzed with mean and standard deviation while z-test was used to test the null hypotheses. He found

among others that there is urgent need to recruit competent ICT teachers to teach the secretaries at the government staff training centre in south-western Nigeria and the need for supply of adequate and modern equipment for the training of secretaries on ICT. The researcher concluded that there is need for well trained and competent teachers because no educational system can rise above its teachers and the ICT teachers should be adequately prepared and well equipped to meet with the challenged dynamic society. He recommended that the policy makers should include all modern packages in ICT in the curriculum and the ICT teachers should expose the secretaries to enough practical works and all the modern software packages on ICT. The present study is related to Adegbenro's study in the sense that both focused on the assessment and implementation of programme.

Okoro (2010), conducted a study on an assessment of office education skills required for entrepreneurial ventures in Delta State. The purpose of the study was to examine office education skills required for entrepreneurial challenges and to determine the areas of entrepreneurial challenges in Delta State. The research questions that guided the study were what are the required office education skill for entrepreneurial colleges and what are the entrepreneurial challenges available for office education holders? The study was carried out in Delta State. The research design for the study was

descriptive survey. The population of the study was 233 entrepreneurs who were business education graduates. The instrument of data collection was a questionnaire. Mean was used for analyzing the research question while z-test was used to test the null hypotheses. The researcher found out that office practice skills, communication skills, human relation skills and information communication technology skills are relevant for the jobs such as business centres, browsing centres, printing centres and consultancy services. The researcher concluded that office education is an integral part in business education which helps to inculcate practical skills to the students to enable them be self-employed and to be self reliant after graduation. Hence this special type of education should be encouraged in Nigeria universities, especially in the presence of global economic recession. He recommended that adequate teaching facilities should be made available to Nigerian universities by the government to enable the lecturers teach the practical aspect of the course, and also qualified teachers with at least master's degree in business education should be employed in Nigeria universities by the governing councils. Okoro's study did not take undergraduate students into consideration. Both studies relate in terms of assessment but differ in areas of population and scope. The current study concentrates on the assessment of

the provision and resources utilization for the implementation OTM curriculum in polytechnics in south-south Nigeria.

Ezenwafor & Okeke (2010), did a research on evaluation of information and communication technology skills needed by accounting education lecturers in South-East geo-political zone of Nigeria. The purpose of the study among others was to determine the internet skills needed by accounting education teachers in tertiary institutions in Nigeria and to also determined the data processing skills needed by accounting education teachers in tertiary institutions in Nigeria. The research questions of the study were what are the internet skills needed by accounting education teachers in tertiary institutions in Nigeria? What are the data processing skills needed by accounting education teacher in tertiary institutions in Nigeria? The design adopted was a survey research design. Areas covered by the study were colleges of education located in south east geopolitical zone of Nigeria. The population comprised 55 college of education lecturers teaching accounting. The questionnaire was the main instrument used for data collection. Mean scores was used to analyse the research questions while the hypotheses were tested using z-test statistical tools. The researchers found that ICT skills are vital for effective teaching of accounting courses in south-East geopolitical zone of Nigeria and they also found out that data processing skills are needed by accounting education

lecturers in south-east geopolitical zone of Nigeria. The researchers recommended that in colleges of education, accounting education lecturers in the south-east geopolitical zone of Nigeria should acquire ICT skills and put in practice these skills to enable them use these skills effectively and efficiently in the teaching of accounts. Ezemoyin & Okafor's study and the current study are similar in some ways. Their study concentrated on accounting education while the current study concentrated on office technology education. Their target population were lecturers while the current study's population are also lecturers.

Summary of Review of Related Literature

The literature reviewed indicates that the world of work is changing and becoming more demanding, and as, well the knowledge and skills needed by individuals to succeed in work place are undergoing changes. In order to move with time, adequate forms of work force preparation are necessary to equip the citizens to cope with the exigencies of the present and future challenges due to ICT innovation. For the above target to be met, there is need for the current OTM curriculum to be effectively implemented so that the products will fit properly into the world of work.

The review of related literature highlighted the views of various authorities regarding the implementation of OTM curriculum in Nigeria

polytechnics. The sub-headings covered conceptual framework, theoretical frame work, theoretical studies and related empirical studies.

The Conceptual framework presented the definitions of assessment, implementation and OTM curriculum by different authorities. The theoretical framework covered theory supporting curriculum implementation including Tyler's objective model, discrepancy evaluation model, and CIPP evaluation model. Theoretical studies covered the facilities/equipment available for OTM programmes, staff requirements and qualifications and the curriculum components for OTM programmes.

On the curriculum component, the review identified various courses such as office application, modern office technology, citizenship education, communication, economics, business mathematics, business administration, Nigeria legal system, entrepreneurship, ICT and webpage design, SIWES, among other courses, designed to equip graduates with necessary skill needed to cope with their counterparts globally.

On staff, the review revealed that the teaching staff should be adequate in number, competencies and mix and the standard of instruction that they maintain in all course areas they provide instruction to the students are crucial to the programme. The review suggested that for instruction to be effective and lead to employment of graduates, instructional staff must be posited with

technical competencies and teaching capability. The review identified some crucial and relevant instructional equipment/facilities. It revealed that instructional equipment/facilities enable a skillful teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided. The review rejects the unavailability of these important tools in polytechnics, and revealed the implication of this on the students; that if students are not trained with the equipment they will use in the workplace on graduation, they cannot perform to their employer's expectations.

Six related empirical studies were reviewed, compared and contrasted. Although they provided the required help in the compilation and organization of this chapter, one thing is noticeable: all the studies on availability and adequacy of resources were conducted based on the opinions and views of respondents generated through questionnaires, instead of getting the actual facts and figures of the available resource either through a direct observation or similar instruments. This is the gap that the review of literature has established which gave the needed incentive for the present study. Therefore, the present study closed the identified gap by generating data on the instructional facilities and equipment available through a direct observation. However, in all the literature reviewed, no work on the topic of the current study was seen to have been carried out with coverage of the federal and state polytechnics in south-south Nigeria that the current study covered.

CHAPTER THREE

METHOD

This chapter describes the procedure that was adopted for the study, research design, area of the study, population of the study, instrument for data collection, validation of the instrument, reliability of the instrument, method of data collection and method of data analysis.

Design of the Study

Ex-post facto and descriptive survey research designs were used for the study. According to Nworgu (2006), in ex-post facto research design, the researcher usually has no control over the variables of interest and therefore cannot manipulate them. Indeed, the researcher only attempts to link some already existing effect or observation to some variables causative agents.

Onuegbu (2010) posited that descriptive research is primarily concerned with the present, although it often considers past events and their influences as they relate to current condition. Nworgu (2006) defined survey research as the design in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. The researcher considers these designs appropriate for this study since it used observation method and at the same time collected data from lecturers and instructors of OTM in polytechnics in south-south Nigeria with a view to assessing the level of the curriculum implementation.

Area of the Study

This study was carried out in polytechnics in the south-south zone of Nigeria covering six states namely; Akwa-Ibom, Bayelsa, Cross River, Delta, Edo and Rivers States. The south-south zone is a tropical region known for heavy rainfall. It has boundaries with south-west and south-east zones. The states are equatorially and tropically located and known to be educationally advanced since they have many tertiary institutions. They are known for farming, extraction of raw materials such as lime stone, gold, oil, among others. The states have witnessed industrial development and growth due to the presence of crude oil. The choice of this area was based on the fact it has many polytechnics that offer OTM programmes.

Population of the Study

The population of the study consists of all academic staff in OTM Departments in the six (6) polytechnics in the area of study. Information gathered from OTM Departments in the six polytechnics put the population size at 98 as shown in Appendix C (p. 175). The population is not too large and was studied in entirety without sampling.

Instrument for Data Collection

The instrument for data collection in this study was the National Board for Technical Education (NBTE) benchmark inventory for instructional delivery

in OTM programmes and a structured questionnaire tagged "Office Technology and Management Curriculum Implementation Status (OTMCIS)".

The questionnaire instrument had two sections A and B. Section A contained three items on respondents' demographic data covering gender, experience and institution ownership. Section B was sub-divided into nine sub sections, that is sections B1 – B 9 according to the research questions and contained 117 items. Data in relation to sub sections B1 to B7 were collected through a direct observation by the researcher. The observation was recorded in an observation schedule prepared in accordance with the National Board for Technical Education (2004) stipulation regarding instructional resources for OTM programmes. Sections B8 – B9 of the questionnaire was used to collect data from the respondents, B8 contained 27 items on adequacy of curriculum components while B9 contained 23 items on the extent of utilization of available materials resources for effective implementation of OTM curriculum.

The instrument is a five-point rating scale. The responses to items in sections B8 and B9 are shown below:

<u>Section B8</u>

Very Adequate	-	5
Adequate	-	4
Fairly Adequate	-	3

Inadequate - 2
Very Inadequate - 1

Section B9

Very adequately utilized - 5
Adequately utilized - 4
Fairly adequately utilized - 3
Inadequately utilized - 2
Very inadequately utilized - 1

Validation of the Instrument

The validation of the questionnaire instrument was carried out by three experts; one from the Department of Vocational Education, Nnamdi Azikiwe University, Awka, one from the Department of Vocational and Technical Education, University of Benin and two in measurement and evaluation from Nnamdi Azikiwe University and Ambrose Alli University, Ekpoma. The experts were presented with the research topic, the purpose of the study, research questions, hypotheses and a draft copy of the instrument and were requested to freely modify any section of the instrument as they deem fit. The experts critically examined the instrument for relevance of content, suitability of instructions, and clarity of item statements. They made useful suggestions and corrections which were reflected in the final draft of the instrument presented to the supervisor for final approval.

Reliability of the Instrument

The NBTE (2004) document does not require reliability test since it is a standardized document. The reliability of the questionnaire was established using the test–re-test technique. This was carried out by administering the instrument on twenty OTM lecturers, ten each from Kogi State Polytechnic, Lokoja and Federal Polytechnic Idah, Kogi State who are not part of the study population. The instrument was administered on them again after an interval of two weeks. The data from the two tests were correlated with the Pearson Product Moment Correlation and a correlation co-efficient of 0.75 was obtained. Thus the instrument was considered to be reliable for the study.

Method of Data Collection

The inventory was taken through direct observation which was carried out by the researcher in OTM departments of the six polytechnics in the area of study. The researcher collected an introductory letter from her Head of Department with which she visited the polytechnics and which enabled her obtain permission and access to instructional resources of OTM departments.

Copies of the questionnaire were administered on the population with the help of five (5) research assistants who were selected and trained by the researcher. The research assistants covered polytechnics outside Edo State while the researcher personally administered the instrument in polytechnics

within Edo State. Completed copies of the questionnaire were retrieved in the same manner. The questionnaire was accompanied with a letter of introduction from the researcher explaining the purpose of the exercise and appealing to OTM lecturers and instructors to provide the researcher the needed information which will be helpful in the study. A period of ten weeks was used for the distribution and collection of the questionnaire. The questionnaire collected were used for data analysis. 98 questionnaire was administered and 79 was returned representing 92.9 percent.

Method of Data Analysis

Data relating to Section A of the questionnaire were analyzed using frequency counts and percentages. While those on the inventory taken (sections B1 – B7) were analyzed using ratio analysis, frequency count and percentages. The NBTE (2004) minimum Benchmark was used as specification for the analysis. The remarks are adequate where the percentage of available resources is 100 percent and inadequate where the percentage is below 100 percent. Data related to Research Questions 8 and 9 were analyzed with the arithmetic means while the z-test statistic tool was used to test the null hypotheses at 0.05 level of significant.

Decision Rule

For research questions 8 and 9, boundary limits of numbers were used to take decision on all the items. The boundary limits of numbers are presented below:

Response Option	**Scales**	**Boundary Limit of Numbers**
Very adequate	5	4.50 – 5.00
Adequate	4	3.50 – 4.49
Fairly adequate	3	2.50 – 3.49
Inadequate	2	1.50 – 2.49
Very inadequate	1	1.00 – 1.49
Very adequately utilized	5	4.50 – 5.00
Adequately utilized	4	3.50 – 4.49
Fairly adequately utilized	3	2.50 – 3.49
Inadequately utilized	2	1.50 – 2.49
Very inadequately utilized	1	1.00 – 1.49

Therefore, an item with a mean scale between 4.50 and 5.00 is very adequate or very adequately utilized. In the same vein, an item with mean ranging between 3.50 – 4.49 is adequate or adequately utilized, while an item with mean ranging between 2.50 – 3.49 is fairly adequate or fairly adequately utilized. Finally, an item with mean score between 1.50 – 2.49 is inadequate or inadequately utilized. Scores between 1.00 – 1.49 is very inadequate or very inadequately utilized.

A null hypothesis was upheld where the calculated z-value is less than the z-critical value at 0.05 #1.96. However, if the calculated z-value is greater than z-critical value, the null hypothesis was rejected.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter presents the analysis of data collected, interpretations and discussion of results. The data collected were based on 79 questionnaire returned out of the 98 sent out representing 92.9 percent. The data are presented accordingly. Two sets of questionnaire were administered; one on heads of OTM departments and the other on OTM lecturers in south-south polytechnics that made up the population of the study. The data analysis and presentation of results were carried out in line with the research questions raised and the hypotheses formulated to guide the study as shown in appendix B2.

Data in Table 1 (appendix B2) show that 48 (60.8 percent) of the academic staff in OTM programme in South-South polytechnics are male while 31(39.2 percent) are female; of the 79 academic staff interview, 17 (21.5 percent) have less than 5 years teaching experience while 62 (78.5 percent) have over 5 years teaching experience. Data in the Table reveal that 20 of the academic staff are a federal polytechnic while 59 are in state polytechnics.

Research Questions

Research Question 1

To what extent are the personnel in OTM Department adequate and available for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Question is presented in Table 1.

Table 1: Adequacy of Academic Staff in OTM Departments of the Polytechnics in South-South Nigeria.

Polytechnics	NBTE Benchmark (Ratio of Academic Staff/ Students)	Student Population	Expected Academic Staff in Relation to MBTE Benchmark		Number Available		Surplus/ Deficiency		% Available		Remark	
			Lecturer/ Instruction	Tech	Lecturer/ Instruction	Tech	Lecturer/ Instruction	Tech	Lecturer/ Instruction	Tech	Lecturer/ Instruction	Tech
Auchi	1:30	594	20	1	26	2	6	1	130%	200%	A	A
Usen	1:30	440	14	1	16	1	2	0	114%	100%	A	A
Ozoro	1:30	551	18	1	15	1	3	0	83%	100%	NA	A
Ogwashi-Uku	1:30	300	10	1	15	1	5	0	150%	100%	A	A
Bori	1:30	185	6	1	13	1	7	0	216%	100%	A	A
Ikot	1:30	95	6	1	8	-	6	1	133%	0%	A	NA

Data presented in Table 2 show that number of available academic staff in Ozoro with a percentage of 83 is not adequate relative to NBTE (2004) Minimum Benchmark. For the other five polytechnics, the number of academic staff for the programme is adequate with 216 percent for Bori, 150 percent for Ogwashi-Uku, 133 percent for Ikot, 130 percent for Auchi and 114 percent for Usen.

In the area of technicians, Ikot recorded 0 percent, meaning that the polytechnic does not have a technician that is expected to manage her laboratory. Other 5 polytechnics are well staffed in the area of technicians with 200 percent for Auchi, 100 percent for Usen, Ozoro, Ogwashi-Uku and Bori respectively.

Research Question 2

To what extent are the physical facilities are adequate and available for the implementation of OTM curriculum in Polytechnic in south-south Nigeria?

Analysis of the data relating to this Research Question is presented in Table 2.

Table 2: Adequacy of Physical Facilities in OTM Departments of Polytechnics in south-south Nigeria.

S/N	Physical Facilities	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
1	**Staff Office: B. M.**	1:1	1:1	1:1	1:1	1:1	1:1	Not
	Number Available	11	2	4	4	6	8	Adequate
	% Availability	50%	40%	25%	27%	55%	50%	
2	**Model Office: B. M.**	1	1	1	1	1	1	Adequate
	Number Available	1	-	1	1	1	1	
	% Availability	100%	0%	100%	100%	100%	100%	

Table 2 continued

S/N	**Physical Facilities**	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
3	**Classrooms: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	6	2	4	3	5	10	Adequate
	% Availability	30%	90%	27.3 %	16%	50%	164%	
4	**Typewriting Laboratory: B. M.**	1	1	1	1	1	1	Adequate
	Number Available	-	1	2	1	2	2	
	% Availability	0%	100%	200%	100%	200%	200%	
5	**Shorthand Laboratory: B. M.**	1	1	1	1	1	1	Adequate
	Number Available	2	-	1	1	1	-	
	% Availability	200%	0%	100%	100%	100%	0%	
6	**Computer Laboratory: B. M.**	1	1	1	1	1	1	Adequate
	Number Available	2	-	2	1	2	2	
	% Availability	200%	0%	200%	100%	200%	200%	
7	**OTM Library/ Bookshop: B. M.**	1:10	1:10	1:10	1:10	1:10	1:10	Not Adequate
	Number Available	-	-	-	-	-	-	
	% Availability	0%	0%	0%	0%	0%	0%	

Data in Table 2 show that the available offices for OTM academic staff in all the polytechnics is below 100 percent and, therefore, not adequate as benchmark for staff office is one lecturer to an office. Also, the Table show that available classroom capacity for OTM programme in five of the polytechnics, which is below 100 percent is not adequate in relative to NBTE (2004) minimum benchmark of thirty chairs/desks for thirty students. Only Ikot has above the minimum benchmark

with 164 percent. Also, the Table shows that the departments in Ozoro, Bori and Ikot have two typing laboratories each, and others have one each with the exception of Auchi which has none. Each of the schools' OTM department has one model office, except for Usen that has none. For shorthand laboratory, Auchi has two, Ozoro, Ogwashi-Uku and Bori has one each while Usen and Ikot have none. With regards to computer laboratory, Auchi, Ozoro, Bori and Ikot has two each, Ogwashi-Uku has one while Usen has none.

In the area of departmental library/bookshop, all the polytechnics recorded 0 percent, meaning that they do not have departmental library. Therefore, departmental library is not adequate for the students as stipulated by the NBTE (2004) minimum benchmark of one student to ten books. On the whole, the physical facilities in OTM department in all the polytechnics regarding staff offices, classrooms and library/bookshop are not adequate. However, the facilities relative to model office, typewriting laboratory, shorthand laboratory and computer laboratory are adequate.

Research Question 3

To what extent are the equipment and supplies are adequate and available in computer and typewriting laboratories for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Question is presented in Table 3.

Table 3: Adequacy of Equipment and Supplies for Computer/Typing Laboratories in OTM Department of Polytechnics in south-south Nigeria.

S/N	Computer/Typing Laboratories	Auchi	Usen	Ozoro	Ogwashi -Uku	Bori	Ikot	Remark
1	**Manual Typewriters: B. M.**	30:30	30:30	30:30	30:30	30:30	30:30	Not
	Number Available	-	-	70	25	100	62	Adequate
	% Availability	0%	0%	16%	4.5%	33.3%	34%	
2	**Electric/Electronic Typewriters: B. M.**	30:30	30:30	30:30	30:30	30:30	30:30	Not
	Number Available	-	-	-	2	-	50	Adequate
	% Availability	0%	0%	0%	0.4%	0%	27%	
3	**Swivel Typing Chairs: B. M.**	30:30	30:30	30:30	30:30	30:30	30:30	Not
	Number Available	84	10	30	3	-	40	Adequate
	% Availability	14%	18%	6.8%	0.5%	0%	22%	
4	**Tables: B. M.**	30:30	30:30	30:30	30:30	30:30	30:30	Not
	Number Available	84	10	30	25	100	150	Adequate
	% Availability	28%	18%	6.8%	4.5%	33.3%	81%	
5	**Stop Watch: B. M.**	2:30	2:30	2:30	2:30	2:30	2:30	Not
	Number Available	2	-	2	3	4	2	Adequate
	% Availability	5%	0%	7%	8%	20%	17%	
6	**Wall Clock: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	2	-	2	1	8	4	Adequate
	% Availability	10%	0%	13%	5.5%	80%	64%	
7	**Filling Cabinet: B. M.**	2:30	2:30	2:30	2:30	2:30	2:30	Not
	Number Available	2	-	2	-	4	4	Adequate
	% Availability	5%	25%	7%	0%	20%	33%	
8	**Computers: B.M**	1:3	1:30	1:3	1:30	1:30	1:30	Not
	Number Available	140	-	60	20	60	150	Adequate
	% Availability	72%	0%	41%	11%	60%	241%	

Data in Table 3 show that all the items of equipments and supplies in the typing and computer laboratories in the Office Technology and Management department of south-south polytechnics are not adequate relative to the NBTE (2004) minimum standards. This is reflected in the percentage scored by each of the items which is below 100 percent in all the polytechnics covered.

Item 1 of the Table, shows that the OTM programme of Auchi and Usen has no typing laboratory. Similarly, item 2 shows that Auchi, Usen, Ozoro and Bori have no single electric/electronic typewriter. items 3 and 5 show that there is no

swivel typing chair and stop watch in Bori and Usen respectively. However, in the computer laboratory, Usen recorded 0 percent while Ikot recorded 241 percent. Others are Auchi 72 percent, Bori 60 percent, Ozoro 41 percent and Ogwashi-Uku 11 percent.

Research Question 4

To what extent are the equipment and supply in shorthand laboratory are adequate and available for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Question is presented in Table 4.

Table 4: Adequacy of Equipment and Supplies for Shorthand Laboratory in OTM Department of Polytechnics in south-south Nigeria

S/N	Shorthand Laboratory	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
1	**Central Transmitting Unit: B. M.**	1	1	1	1	1	1	Fairly
	Number Available	1	-	-	1	1	-	Adequate
	% Availability	100%	0%	0%	100%	100%	0%	
2	**Transistor: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	2	1	-	Adequate
	% Availability	0%	0%	0%	200%	100%	0%	
3	**Receiver: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	2	1	-	Adequate
	% Availability	0%	0%	0%	200%	100%	0%	
4	**Suitable Media with 3-4 Units: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	1	-	Adequate
	% Availability	0%	0%	0%	0%	100%	0%	
5	**Selection Channels: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	1	1	-	Adequate
	% Availability	0%	0%	0%	100%	100%	0%	

Table 4 continued

S/N	Shorthand Laboratory	Auchi	Usen	Ozoro	Ogwashi -Uku	Bori	Ikot	Remark
6	**Headphones: B. M.**	30:30	30:30	30:30	30:30	30:30	30:30	Not
	Number Available	70	5	70	20	30	50	Adequate
	% Availability	16%	9%	16%	4%	10%	27%	
7	**Air Conditional: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	3	-	1	20	Adequate
	% Availability	0%	0%	20%	0%	10%	50%	
8	**Cubicles: B. M**	30:30	30:30	30:30	30:30	30:30	30:30	Not
	Number Available	70	5	-	20	30	50	Available
	% Availability	12%	9%	0%	7%	10%	27%	

Data in Table 4 show that the equipment and supplies in the shorthand laboratory of the OTM departments in all the polytechnics are not adequate, except the central transmitting unit which is fairly adequate relative to NBTE (2004) minimum standard.

Research Question 5

To what extent are the equipment and supplies in business model office are adequate and available for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Question is presented in Table 5.

Table 5: Adequacy of Equipment and Supplies for Model Office in OTM Department of Polytechnics in south-south Nigeria

S/N	Equipment/Supplies in Model Office	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
1	**Photocopy Machine:**							
	B. M.	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	2	-	1	1	1	1	Adequate
	% Availability	10%	0%	6.6%	5.5%	10%	16%	
2	**Electric Typewriter: B. M.**	1: 30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	1	2	2	1	Adequate
	% Availability	0%	0%	6.6	11%	20%	16%	
3	**Electronic Typewriter:**							
	B. M.	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	1	1	-	1	Adequate
	% Availability	0%	0%	6.6%	5.5%	0%	16%	
4	**Laminating machine:**							
	B. M.	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	1	1	1	-	Adequate
	% Availability	5%	0%	6.6%	5.5%	10%	0%	
5	**Envelop Opening**							
	Machine: B. M.	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	-	1	-	-	Adequate
	% Availability	0%	0%	0%	5.5%	0%	0%	
6	**Telephone Exchange**							
	Machine: B. M.	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	-	-	Adequate
	% Availability	0%	0%	0%	0%	0%	0%	
7	**Dictating Machine: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	1	-	1	1	Adequate
	% Availability	0%	0%	6.6%	0%	10%	16%	
8	**Modern Digital Radio**							
	System: B.M.	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	1	1	-	-	Adequate
	% Availability	0%	0%	6.6%	5.5%	0%	0%	

Table 5 continued

S/N	**Equipment/Supplies in Model Office**	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
9	**Television/Video Set System: B.M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	1	2	1	1	Adequate
	% Availability	0%	0%	6.6%	11%	10%	16%	
10	**Satellite Facility: B.M.**	1	1	1	1	1	1	Not
	Number Available	-	-	1	-	-	-	Adequate
	% Availability	0%	0%	100%	0%	0%	0%	
11	**Fax Machine: B.M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	-	-	1	1	Adequate
	% Availability	0%	0%	0%	0%	10%	16%	
12	**Mini Departmental Bookshop: B.M.**	1:10	1:10	1:10	1:10	1:10	1:10	Not
	Number Available	-	-	-	-	-	-	Adequate
	% Availability	0%	0%	0%	0%	0%	0%	

Data in Table 5 show that the equipment and suppliers in the model office of OTM department in all the polytechnics are not adequate relative to NBTE (2004) minimum standards as all the items in the Table scored below 100 percent. The situation is worse in Usen which has no model office, and Auchi which has only items 1 and 4 (photocopier and laminating machine) in the model office.

Research Question 6

To what extent are the equipment and supplies in office practice laboratory are adequate and available for the implementation of office technology for the implementation of OTM curriculum in polytechnics in south-south Nigeria?

Analysis of data relating to this research question is presented in Table 6.

Table 6: Adequacy of Equipment and Supplies for Office Practice in OTM Department of Polytechnic in south-south Nigeria.

S/N	Equipment and Supplies for Office Practice in OTM	Auchi	Usen	Ozoro	Ogwashi -Uku	Bori	Ikot	Remark
1	**Five varieties of Typewriters:**							
	B. M.	5	5	5	5	5	5	Not
	Number Available	-	-	1	1	1	-	Adequate
	% Availability	0%	0%	20%	20%	20%	0%	
2	**One Photocopier: B. M.**	1	1	1	1	1	1	Adequate
	Number Available	1	-	1	1	1	1	
	% Availability	100%	0%	100%	100%	100%	100%	
3	**Steel Filling Equipment:**							
	B. M.	1	1	1	1	1	1	Adequate
	Number Available	1	-	1	1	-	4	
	% Availability	100%	0%	100%	100%	0%	400%	
4	**One Shredding Machine:**							
	B. M.	1	1	1	1	1	1	Adequate
	Number Available	1	-	1	2	1	1	
	% Availability	100%	0%	100%	200%	100%	100%	
5	**Two P.C with Word Proc.**							
	Equip: B. M.	2	2	2	2	2	2	Not
	Number Available	1	-	1	2	2	-	Adequate
	% Availability	50%	0%	50%	100%	100%	0%	
6	**Two Electronic desk**							
	calculators: B. M.	1	2	2	2	2	2	Not
	Number Available	-	-	2	2	1	-	Adequate
	% Availability	0%	0%	100%	100%	50%	0%	
7	**Telephone Equipment: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	1	-	Adequate
	% Availability	0%	0%	0%	0%	100%	0%	
8	**One Fax Machine: B.M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	-	-	Adequate
	% Availability	0%	0%	0%	0%	0%	0%	
9	**One Franking Machine: B.M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	-	-	Adequate
	% Availability	0%	0%	0%	0%	0%	0%	
10	**One Letter Opening Machine:**							
	B.M.	1	1	1	1	1	1	Not
	Number Available	-	-	1	1	-	-	Adequate
	% Availability	0%	0%	100%	100%	0%	0%	
11	**One Guillotin: B.M.**	1	1	1	1	1	1	Not
	Number Available	-	-	1	-	-	-	Adequate
	% Availability	0%	0%	100%	0%	0%	0%	
12	**One Scanner: B.M.**	1	1	1	1	1	1	Not
	Number Available	1	-	1	1	-	-	Adequate
	% Availability	100%	0%	100%	100%	0%	0%	

Table 6 continued

S/N	Equipment and Supplies for Office Practice in OTM	Auchi	Usen	Ozoro	Ogwashi -Uku	Bori	Ikot	Remark
13	**One Bidding Machine: B.M.**	1	1	1	1	1	1	Not
	Number Available	1	-	-	2	-	-	Adequate
	% Availability	100%	0%	0%	200%	0%	0%	
14	**One Laminating Machine: B.M.**							
	Number Available	1	1	1	1	1	1	Not
	% Availability	1	-	1	1	-	-	Adequate
		100%	0%	100%	100%	0%	0%	
15	**Other Equipment relevant to OTM: B.M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	1	-	Adequate
	% Availability	0%	0%	0%	0%	100%	0%	
16	**Generator: B.M.**	1	1	1	1	1	1	Adequate
	Number Available	1	-	1	1	1	1	
	% Availability	100%	0%	100%	100%	100%	100%	

Data in table 6 show that equipment and supplies for office practice in OTM department of all the polytechnics for 12 out of 16 aspects are not adequate but adequate for the remaining four. On the whole, the analysis shows that equipment and supplies for the subject in the department in all the polytechnics are not adequate.

Research Question 7

To what extent are the equipment and supplies in resource/business centre are adequate and available for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Questions is presented in Table 7.

Table 7: Adequacy of Resources/Business Centre in OTM Department of Polytechnic in south-south Nigeria.

S/N	Equipment/Supplies	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
1	**Radio cassette: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	1	-	1	1	Adequate
	% Availability	0%	0%	6.6%	0%	10%	16.6%	
2	**Colour Television: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	1	-	-	-	Adequate
	% Availability	0%	0%	100%	0%	0%	0%	
3	**Video Machine/Video CD/DVD: B. M.**	1	1	1	1	1	1	Not
	Number Available	-	-	1	-	-	-	Adequate
	% Availability	0%	0%	100%	0%	0%	0%	
4	**Projector and Screen: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	1	-	1	1	Adequate
	% Availability	5%	0%	6.6%	0%	10%	16%	
5	**Digital Camera and Printer: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	-	-	-	-	-	-	Adequate
	% Availability	0%	0%	0%	0%	0%	0%	
6	**Compact Disc: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	-	-	-	-	Adequate
	% Availability	5%	0%	0%	0%	0%	0%	
7	**Slide: B. M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1			-	1	-	Adequate
	% Availability	5%	0%	0%	0%	10%	0%	
8	**Microfilm and Microfilming Camera: B.M.**	1	1	1	1	1	1	Not
	Number Available	-	-	-	-	-	-	Adequate
	% Availability	0%	0%	0%	0%	0%	0%	
9	**Computer: B.M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	1	-	1	1	Adequate
	% Availability	5%	0%	6.6%	0%	10%	16%	
10	**Photocopiers: B.M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	1	-	1	1	adequate
	% Availability	5%	0%	6.6%	0%	10%	16%	

Table 7 continued

S/N	Equipment/Supplies	Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot	Remark
11	**Scanner: B.M.**	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	1	-	-	-	Adequate
	% Availability	5%	0%	6.6%	0%	0%	0%	
12	**Stapler, Punch etc:**							
	B.M.	1:30	1:30	1:30	1:30	1:30	1:30	Not
	Number Available	1	-	1	-	3	6	Adequate
	% Availability	5%	0%	6.6%	0%	30%	96%	
13	**Binding Machine: B.M.**							
	Number Available	1:30	1:30	1:30	1:30	1:30	1:30	Not
	% Availability	1	-	1	-	-	-	Adequate
		5%	0%	6.6%	0%	0%	0%	

Data in Table 7 show that the equipment and supplies in the resources/business centre of OTM department in South-south polytechnics are not adequate relative to NBTE (2004) minimum standard. Apart from the fact that all the 13 items of equipment and supplies listed in the Table scored below 100 percent, Usen has no resource/business center in the OTM department.

Research Question 8

To what extent would OTM personnel assess the curriculum components for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Question is presented in Table 8.

Table 8: Respondents' mean rating of the adequacy of Curriculum content for OTM Programme of Polytechnics in South-south Nigeria. (N = 79)

S/N	National (ND) Diploma Courses	Auchi		Usen		Ozoro		Ogwashi-Uku		Bori		Ikot		Overall Rating		Mean Rating 1-5	Remarks
		Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %		
1	Technical English	100	-	100	-	100	-	100	-	80	20	71.4	28.6	92.4	7.6	3.87	Adequate
2	Shorthand	90	10	100	-	100	-	86.7	13.3	80	20	85.7	14,3	89.9	10.1	3.96	Adequate
3	Information & Com. Technology	100	-	100	-	93.3	6.7	67.7	33.3	100	-	100	-	92.4	7.6	3.81	Adequate
4	Office Practice	100	-	100	-	93.3	6.7	86.7	13.3	100	-	100	-	96.2	3.8	3.84	Adequate
5	Touch Keyboard	100	-	100	-	60	40	86.7	13.3	90	10	85.7	14.3	86.1	13.9	3.73	Adequate
6	Career Development	100	-	100	-	100	-	93.3	6.7	100	-	100	-	98.7	1.3	4.01	Adequate
7	Record Management	100	-	100	-	93.3	6.7	100	-	100	-	100	-	98.7	1.3	4.01	Adequate
8	Social Psychology	100	-	100	-	93.3	6.7	100	-	100	-	100	-	98.7	1.3	4.01	Adequate
9	Web Page Design	100	-	100	-	100	-	60	40	100	-	100	-	92.4	7.6	3.81	Adequate
10	Communication Skills	100	-	100	-	100	-	86.7	13.3	100	-	100	-	97.5	2.5	4.22	Adequate
11	Small Business Management	100	-	100	-	80	20	86.7	13.3	100	-	100	-	93.7	6.3	3.91	Adequate
12	Student Independent project	100	-	100	-	93.3	6.7	93.3	6.7	100	-	100	-	97.5	2.5	4.22	Adequate

Table 8 continued

S/N	National (ND) Diploma Courses	Auchi		Usen		Ozoro		Ogwashi-Uku		Bori		Ikot		Overall Rating		Mean Rating 1-5	Remarks
		Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %	Adq %	Inad %		
	Higher National Diploma HND Courses																
13	Shorthand	95	5	100	-	80	20	100	-	85.7	14.3	90.5	9.5	4.01	Adequate		
14	Information and Comm.Technology. (ICT)	100	-	93.3	6.7	80	20	100	-	100	-	94.6	5.4	4.20	Adequate		
15	Office Administration and Management	100	-	100	-	100	-	100	-	100	-	100	-	4.37	Adequate		
16	Business Communication	100	-	100	-	100	-	100	-	100	-	100	-	4.44	Adequate		
17	Social Psychology	100	-	86.7	13.3	100	-	100	-	100	-	97.3	2.7	4.15	Adequate		
18	Research Method	100	-	100	-	100	-	100	-	100	-	100	-	4.45	Adequate		
19	Professional Career Development	100	-	93.3	6.7	100	-	100	-	100	-	98.6	1.4	4.35	Adequate		
20	Database Management System	100	-	86.7	13.3	60	40	100	-	100	-	89.2	10.8	4.11	Adequate		
21	Oral communication Skills	100	-	93.3	6.7	80	20	100	-	100	-	94.6	5.4	4.22	Adequate		
22	Advance Desktop Publishing	100	-	93.3	6.7	40	60	100	-	100	-	86.5	13.5	3.72	Adequate		
23	Management Information System	100	-	93.3	6.7	60	40	100	-	100		90.5	9.5	4.02	Adequate		
24	Professional Ethics and Social Responsibility	100	-	86.7	13.3	93.3	6.7	100	-	85.7	14.3	93.2	6.8	4.02	Adequate		
25	Advance Webpage Design	100	-	93.3	6.7	47.3	53.3	100	-	92.7	7.1	86.5	13.5	3.86	Adequate		
26	Student Independent Project	100	-	100	-	93.3	6.7	100	-	100	-	98.6	1.4	4.42	Adequate		
														Grand mean = 3.95 while grand standard deviation = 0.89			

Data in Table 8 show that the curriculum components for OTM programmes in the polytechnic are generally rated adequate by the academic staff. The mean (x) rating for the courses range between 3.79 and 4.45 and grand mean of 3.95, with grand standard deviation of 0.89. Meaning that the respondents mean rating is not far apart. On subject analysis, only shorthand and touch keyboard are rated below 90 percent adequate. Shorthand and touch keyboard were rated 89.9% and 86.1 percent respectively while the remaining 10 courses in the National Diploma (ND) programme course curriculum were rated above 90 percent by the respondents.

For the Higher National Diploma (HND) programme, only 3 courses were also rated below 90 percent, namely; database management system 89.2 percent, advance desktop publishing 86.5 percent and advance webpage design 86.5 percent. The remaining 11 courses in the HND programme course curriculum were all rated above 90 percent adequate by the OTM academic staff in South-south polytechnics. Their mean (x) scores ranges between 3.72 and 4.45 and a grand mean of 4.16 with standard deviation of 0.83.

Research Question 9

To what extent do OTM personnel in south-south utilize the available material resources for the implementation of OTM curriculum in Polytechnics in south-south Nigeria?

Analysis of data relating to this Research Question is presented in Table 9.

Table 9: Respondents' Rating of the Extent of Utilization of Available Material Resources for Effective Implementation of OTM Curriculum in Polytechnics in south-south Nigeria (N = 79)

S/n	Material resources	Institutional Mean (x) Rating of Material Resources Utilization						Overall Mean	Remark
		Auchi	Usen	Ozoro	Ogwashi-Uku	Bori	Ikot		
1	Manual Typewriting Laboratory	2.35	2.00	4.13	3.60	4.20	4.50	3.46	Fairly Utilize
2	Electric/ Electronic Typewriting laboratory	2.45	2.00	2.53	2.80	3.00	4.36	2.86	"
3	Computer Laboratory	3.05	2.00	3.73	2.73	4.10	4.14	3.29	"
4	Shorthand Laboratory	2.50	2.20	3.67	2.47	3.30	2.93	2.84	"
5	Model Office	3.30	2.20	3.73	2.53	2.50	4.43	3.12	"
6	Ink Duplicating Machine	1.80	1.40	2.86	2.33	1.90	2.79	2.18	Inadequately Utilize
7	Photocopying Machine	3.45	1.40	3.53	4.20	2.60	3.29	3.08	Fairly Utilize
8	Steel Filing Equipment	2.15	3.40	3.47	4.27	3.00	2.93	3.20	"
9	Shredding Machine	3.55	1.40	4.20	2.53	2.80	2.71	2.87	"
10	Fax Machine	1.80	1.40	3.00	2.13	1.90	2.57	2.13	Inadequately Utilize
11	Letter Opening Machine	1.80	1.40	3.00	3.07	2.30	2.43	2.33	"
12	Guillotine	2.80	1.40	3.00	2.73	1.90	2.43	2.38	"
13	Addressing Machine	1.90	2.00	3.47	2.27	3.20	3.36	2.70	Fairly Utilize
14	Staplers	4.45	3.60	4.53	4.87	4.70	4.50	4.44	Very Adequately Utilize
15	Punch Machine	4.35	3.60	4.60	4.87	3.70	4.00	4.19	Adequately Utilize
16	Television	2.30	3.20	4.67	4.00	2.50	2.36	3.17	Fairly Utilize
17	Radio Cassette Player	2.30	3.40	4.20	4.20	2.60	2.43	3.17	"
18	Projector System Slides	3.55	1.60	4.27	3.33	2.50	2.00	2.88	"
19	Electronic Scanner	3.35	1.80	4.13	2.20	2.60	2.50	2.76	"
20	Electric Stencil Scanner	1.95	1.40	3.67	1.87	2.40	2.36	2.26	Inadequately utilize
21	Facsimile Machine	1.75	1.40	3.80	1.93	1.70	2.36	2.16	"
22	Mini Department Bookshop	1.90	1.61.	3.80	1.87	2.40	3.36	2.49	"
23	Generator	4.40	1.20	4.73	4.93	4.60	4.29	4.03	Adequately utilize

Data in Table 9 show that seven items (items 6, 10, 11, 12, 20, and 22) have mean ratings between 2.13 and 2.49 which means that they are inadequately utilized by south-south polytechnic OTM implementers. The Table shows that 13 items (1, 2, 3, 4, 5, 7, 8, 9, 13, 16, 17, 18 and 19) have mean ratings between 2.70 and 3.46 which means that they are fairly utilized while only three items (14, 15 and 23) with mean ratings between 4.03 and 4.44 are adequately utilized.

Hypotheses

Three null hypotheses were tested in this section. The z-test statistic was used for analyzing data relating to the three hypotheses. All the three hypothesis were tested at 0.05 level of significance.

Hypothesis I

There is no significant difference in the mean ratings respondents regarding the utilization of available material resources for the implementation of OTM curriculum in the polytechnics in South-South, Nigeria as a result of experience (1-5 years/above 5 years).

Table 10: Z-test analysis of respondents' mean ratings on how adequately they utilize available material resources for the Implementation of programme curriculum based on experience.

Experience	No	Mean (x)	Std Dev.	df	Z-cal	Z-crit.
1 – 5 yrs.	17	2.4967	0.39073			
				77	2.234	1.98
Above 5 yrs	62	3.1182	0.63462			

The result in Table 11 show that there was no significant difference in the mean scores for academic staff with less than 5 years teaching experience (M= 2.4967, SD = 0.3903) and those with over 5 years teaching experience (M=

3.1182, SD = 0.6346) at the 0.05 level of significance and df 77 (two-tailed). The calculated z value of 2.234 is greater than the critical z value of 1.98, which means that a significance difference existed in the mean ratings of the respondents on the extent of utilization of available material resources for the implementation of the programme curriculum based on experience. The magnitude of the difference in the means (mean difference = 0.6215, 95% *C1*= 1- 20 to -0.0443) was large (eta squared = 0.12). This is in consideration of Cohen (1988) recommendation of 0.01 for small effect, 0.06 for moderate effect and 0.14 for large effect.

Hypothesis 2

Male and female respondents do not differ significantly in their mean ratings the utilization of the available equipment and material resources for the implementation of OTM curriculum in the polytechnics in south-south Nigeria.

Table 11: Z-test analysis of respondents' mean ratings on level of utilization of available material resources for implementing the programme curriculum based on gender.

Gender	No	Mean (x)	Std Dev.	df	Z-cal	Z-crit.
Male	48	2.9694	0.65516			
				77	0.148	1.98
Female	31	2.9257	0.64197			

The result in Table 12 shows that there was no significant difference in the mean scores for male academic staff (M = 2.9694, SD = 0.6551) and female academic staff (M = 2.9257, SD = 0.6419) at the 0.05 level of significance and df 77 (two-tailed). The calculated z of 0.148 is lesser than the critical z of 1.98, which means that there was no significance difference in the mean ratings for male and

female academic staff and the level of utilization of available material resources for the implementation of the programme curriculum in South-South polytechnics. The magnitude of the difference in the means (Mean difference = 0.04366, 95 percent C1 = -0.57074 to 0.65757) was very small (eta square = 0.006).

Hypothesis 3

Respondents do not differ significantly in their mean ratings on the curriculum components of the OTM curriculum of NBTE 2005 as a result of status (lecturers/instructors).

Table 12: Z-test analysis of respondents' mean ratings on academic staff status regarding the curriculum components for the implementation of the programme.

Status	No	Mean (x)	Std Dev.	Df	Z-cal	Z-crit.
Lecturer.	17	4.1367	0.19775			
				77	0.873	1.98
Instructor	62	4.0460	0.22922			

The result in Table 13 shows that there was no significant difference in the mean scores for lecturers (M = 4 .1367, SD = 0.19775) and instructors (M = 4.0460, SD = 0.2292) at the 0.05 level of significance and df 77 (two-tailed). The calculated z of 0.873 is lesser than the critical z of 1.98, which means that there was no significance difference in the mean ratings of lecturers and instructors regarding the curriculum components. The magnitude of the difference in mean (mean difference = 0.09067, 95 percent CI – 0.1236 to 0.3049) was also very small (eta square= 0.035).

Summary of the Findings

The major findings of the study are summarized as follows:

1. The number of academic staff for OTM in all the polytechnics except Ozoro is adequate relative to NBTE (2004) minimum standards.
2. Physical facilities for staff offices, model offices classrooms, typing, computer and shorthand laboratories and library for OTM programme in all polytechnics in south-south Nigeria are not adequate relative to NBTE (2004) minimum standards.
3. Equipment and supplies in the typing and computer laboratories of OTM department of south-south polytechnics are not adequate in relation to NBTE (2004) minimum standards.
4. Equipment and supplies in the shorthand, office practice, model offices, laboratories and resource/business centre of the OTM department in polytechnics in south-south Nigeria are not adequate relative to NBTE (2004) minimum standards.
5. Curriculum components for OTM programmes in the polytechnics in South-south Nigeria are generally rated adequate by the academic staff.
6. Majority of the available material/resources are only fairly utilized, others are inadequately utilized while three are adequately utilized for the implementation of OTM curriculum in polytechnics in South-south Nigeria.

7. Experience significantly affected respondents' mean ratings on the extent of utilization of available material resources but gender and status did not.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter deals with the discussion of findings, conclusion, implications of the study, recommendations, limitations of the study, and suggestion for further studies.

Discussion of Findings

The discussion of the results is presented based on the nine research questions that guided the study and the three null hypotheses formulated for the study.

Adequacy of available Personnel (Lecturers/Instructors, Technologists/Technicians) in OTM Departments in South-South Polytechnics.

The need to implement the new curriculum in OTM in the polytechnics in south-south Nigeria cannot be over emphasized. The world of work today is passing through technological transformations which have changed the way things are in every area of the economy with the educational sector inclusive in the vision of globalization.

The finding in Table 1 shows that lecturers and instructors available in Ozoro Polytechnic are not adequate in relation to the minimum benchmarks standards. For the other five polytechnics, the number of lecturers and instructors available is not adequate. In the area of technologist/technician, Akwa-Ibom State Polytechnic does not have a technician to manage her laboratory, while the others have adequate

number. This finding is partly in consonance with Amaewhule (2004), who reported that there are inadequate teachers and other technical staff in business education programmes of Nigerian tertiary institutions. Similarly, Okwuananso (2004), noted that there is dearth of business education teachers in all levels of the school system – secondary schools, polytechnic, college of education and the university. The importance of adequate teaching staff for any educational programme cannot be overemphasized as they are cardinal and indispensable to the achievement of educational goals. Arubayi (2003), stated that quality education is impossible without teachers. OTM needs adequate teachers to maintain standard and ensure quality delivery. However, the need for adequate lecturers and instructors is gradually being recognized and realized by some institutions as seen in the later part of this finding.

Adequacy of Physical Facilities available for Implementation of OTM Curriculum in south-south Polytechnics.

The physical facilities examined include staff offices, model offices, classrooms, typewriting laboratories, shorthand and computer laboratories and library/bookshop. The findings revealed that available staff office for lecturers and instructors in all the polytechnics are not adequate relative to the NBTE (2004), benchmark for staff office which is one lecturer to one office. Also, the available classroom capacities in five of the polytechnics are not adequate for seating capacity in relative to the measuring

instrument which stipulates thirty chairs/desks for thirty students. Only Akwa-Ibom State Polytechnic has adequate classroom capacities. Covering typewriting laboratories, Ozoro, Bori, and Akwa-Ibom have two each and others one each with the exception of Auchi which has none. The department in all the polytechnics studied has one model office each with the exception of Usen. For shorthand laboratories, Auchi has two, Ozoro, Ogwashi-Uku and Bori have one each while Usen and Ikot have none. Some of the facilities are adequate in some of the polytechnics and not in others, while ICT/Computer laboratories and library facilities are not adequate in all the polytechnics.. This could be as a result of slow adaptation to ICT by tertiary institutions in Nigeria as noted by Okolocha (2010) who reported that compliance to e-learning and ICT in tertiary institutions with regard to preparing business teachers is inhibited by several factors domesticated in the Nigerian system. Changes in the curriculum do support fundamental economic and social transformation in the society. Such transformation required new kinds of skills, capabilities and attitudes, which can be developed by integrating ICT in business education as well as OTM programme (Iheonunekwu, Onyinye, and Ejike, 2010).

On the other hand, the finding of research question two also reveals that libraries and its collections are inadequate. This finding agrees with the submission of Oyeniye (2010), who stated that university libraries in Nigeria

are nothing but a collection of antiquated and out-dated books and materials. Oyeniye noted that the libraries are short of current books and periodicals. This can affect negatively the teaching and learning of business education. The library has been the most used of all self instructional facilities. The library is a repository of books and its main purpose is to make available to students, teachers and researchers at easy convenience all books, periodicals and other reproduced materials which are of interest and value to them. Owoeye and Yara (2011), posited that the library book is still the most economical, most easily accessible and means of conveying information and ideas, considering the cost, size and other operative problems of most instructional media. Therefore, library and its collections are needful in a reasonable state and data for success of OTM programmes. This finding also reveals that lecturers and instructors offices are not adequate. This is in line with the assertion of Esene (2011), that business education as a department in Nigerian school (OTM inclusive) is struggling with many challenges such as limited office accommodation for staff. The importance of offices especially in academic circle cannot be over emphasized. Owoeye and Yare (2011), described office as a second home for teachers because much of the academic time is spent in the office engaging in one form of research, preparing for lecture, attending to students, marking of examination scripts and the likes. So office

accommodation should be provided to lecturers and instructors as required by NBTE.

Adequacy of available Equipment and Supplies in the Computer and Typewriting Laboratories for the implementation of OTM curriculum in south-south Polytechnics.

Findings relative to the third research question revealed that the equipment and supplies in typewriting and computer laboratories of OTM departments in polytechnics in South-south Nigeria are not adequate. This findings conforms to the previous study of Okoro and Iyeke (2004), who found that the typing pool of secondary schools only exist in vacuum and most at times with non-functional typewriters and computers. Also, Ntikudem (2005), observed that the supply of typewriters and computers to business education departments as well as OTM is limited considering the increasing in students' enrolment. The computers, typewriters and other equipment in the laboratories of OTM department are far below standard. This is not good for a skill course like OTM. Hence Okwuananso (2004), stated that, a business teacher (including OTM teachers) cannot effectively teach a student the home-key of a typewriter or how to operate the adding machine without having the machine in the classroom. The qualification and the background of a teacher can only be completed when the right and adequate instructional facilities and equipment are provided for effective teaching and learning.

Adequacy of available Equipment and Supply in Shorthand Laboratory for the Implementation of OTM Curriculum in south-south Polytechnics.

The result of the analysis shows that the equipment and supplies in the shorthand laboratory of OTM departments in polytechnics in south-south Nigeria are not adequate. The equipment and supplies in the shorthand laboratory are grossly inadequate and in some cases not available. This could have a bearing with the assertion of Ndinechi (2001), who stated that shorthand is one of the trees in the forest of titles under business education (including OTM), rubric, it has grown steadily over many years and now is dying a slow aimless death caused by rotting pockets of irrelevance. However, this position is disturbing since shorthand is still in the curriculum of OTM. Most of the shorthand laboratories visited are deserted and covered by dust. Polytechnics should be guided by NBTE specifications since it is the regulatory agency.

Adequacy of available equipment and supplies in the model office for the implementation of OTM Curriculum in south-south Polytechnics.

The result of the analysis reveals that the equipments and supplies in the model offices of OTM departments in polytechnics in South-south Nigeria are not adequate. The model office which is supposed to be a replica of real office situation is devoid of some of the modern equipment and facilities. This finding is in conformity with the lamentation of Fabiyi and Adetoro (2006), who remarked that it is very disturbing that teaching

of business education programmes (OTM inclusive) in schools is very much retarded in terms of technical and modern equipment. Model offices and office practice in our polytechnics in Nigeria are only a caricature of the real business offices. Therefore, model office in OTM departments should be well equipped and regularly reviewed to reflect the ever-changing office technology and equipment. for the goal and objective of the implementation achieved.

Adequacy of available Office Practice Laboratory and equipment and supply in the resource/business centre for the Implementation of OTM Curriculum in south-south Polytechnics.

The result of the analysis of research question five indicates that the equipment and supplies in office practice laboratory and resource/business centre of OTM departments in South-south Nigeria are not adequate. The office practice which is supposed to be a replica of real office situation is devoid of some of the modern office equipment and facilities. This finding is in conformity with the lamentation of Fabiyi and Adetoro (2006) who disserted that it is very disturbing that teaching of business education programmes in school (OTM inclusive) is very much retarded in terms of technological and modern equipment of office practice in our OTM departments in polytechnics are only a caricature of the real business offices. Office practice in OTM department in polytechnic should be well equipped and regularly reviewed to reflect the ever-changing office technology and equipment.

Adequacy of Available of OTM Curriculum contents for the production of skilled manpower for the modern office for the implementation of OTM Curriculum in south-south Polytechnics.

Findings relating to the eight research question revealed that the respondents considered all the curricular component of NBTE (2004), for ND and HND in OTM as adequate. This findings agreed with Okoro (2010), who stated that OTM programme incorporates six components in its design such as office application, office technology, business and administrative management, numeric component, general studies and students industrial work experience scheme (SIWES). Okoro further explained that the design of the OTM programme components appears as a response to global initiative with an objective that portends new academic direction in favour of ICT. Osuala (1989, 2002), also viewed business education (OTM inclusive) as a programme of instruction which consists of two parts; office education, vocational education programme. For office careers through initial refresher and upgrading education and general business education, a programme to provide students with information and competencies needed by all in managing personal business affairs and using the services of business.

Extent to which OTM academic staff utilize available material resources for effective implementation of OTM Curriculum in south-south Polytechnics.

The analysis of OTM lecturers and instructors on utilization of the available material resources for the implementation of office technology and

management curriculum as shown in Table 10 indicates that OTM lecturers and instructors inadequately utilize some of the available material resources in teaching OTM course. This is inconsonance with the submission that OTM resources application in Nigeria fall below expectation. The emergence of ICT resources demands the new pedago electronic approach in the teaching of OTM course in polytechnics in Nigeria. The study carried out by Onasanya, 2010 and Okoye, 2010), agreed with this present findings that is little or no utilization of available material/resources in teaching OTM courses in polytechnics in Nigeria. Utilization of material/resources in teaching helps to transform instruction in schools and classroom thereby relating the new curricula based on real world problems, providing scaffolds and tools for assessing teaching and giving educator and students opportunities to feedback and reflect (Anderson, 2003; and Ndinechi, 2005).

Ile and Okolocha (2011), stated that business educators (OTM inclusive) should strive to educate and train students properly in line with business skills and needs of the work place and business environment of modern time using hi-tech. most OTM lecturers and instructors in polytechnics were not trained with modern technology in their time while at school. Therefore, they cannot model good use of modern technology or teaching facilities in teaching (Idowu, Adagunodo and Popoola, 2003; Okoye and Eze, 2010; and Igbinoba, 2000). The only thing that is constant

in life is change. Equally, the education sector particularly at the tertiary level is undergoing transformation in its service delivery. Consequently, OTM lecturers and instructors should avail themselves opportunities that are being provided as regards the popularization of the use of modern teaching facilities.

The findings relative to null hypothesis (1) showed that there was no significant different in the opinion of experienced and less experienced lecturers and instructor regarding the utilization of available material resources. The finding agreed with Castaldi (1994), which described educational facilities as those thing which enable a skillful teacher either experienced or less experienced to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided. Ile (2001), added that teaching facilities help both experience and less experience teacher stimulate interest, facilitate comparison and give movement and continuity to the teaching/learning process.

The result of hypothesis 2 presented in table 11 shows that there was no significant difference in the opinion of male and female OTM lecturers and instructors regarding the utilization of the available material resources for the implementation of OTM curriculum. Male and female lecturers/instructors agreed that material resources have both high and moderate influence on the teaching of OTM courses. This is in agreement with the finding of CCNA (2010), Unwin (2004), and Popoola (2003), in

their various studies which confirmed numerous influences of ICT resource utilization has on teaching of business education programme (OTM inclusive). Oviawe and Oshio (2011), in corroboration noted that ICT resources utilization of available material resources by male and female in teaching contributes majorly to effective teaching.

The result of the testing of hypothesis 3 showed that there was no significant difference in the mean-ratings of lecturers and instructors regarding the curriculum components of the NBTE (2004), for National Diploma (ND) and Higher National Diploma (HND) in OTM programmes. This agreed with Ilukena (1998), which stated that effective teaching is one of the central purpose of educational practices and research in improving learning mastery of teaching precedes mastery of learning. Understanding teaching has presented persistent and formidable challenges to those who have sought to improve the quality of teaching and learning over the years. Teachers are important and make a difference and the quality of teaching is a crucial factor in promoting effective learning in schools. Jan (2006), stated that for instruction to be effective and lead to employment of graduates, instructional staff must be qualified with technical competence pedagogical capability whether he or she is an instructor or a lecturer. This implies that for the instruction to be effective, the teacher should possess the skills and knowledge to be taught.

Conclusion

Instructional resources (both human and material) are important ingredients for the attainment of OTM objectives. Human resource is paramount to derive the use of ICT effectively in tertiary institutions. Teacher is central to the successful implementation of the new ICT curricula. Equipping students with employable skill is the main responsibility of instructional personnel. It is certain that the qualities of today's teachers will be reflected in the citizens of tomorrow. This is why it is very necessary to have professional skilled, competent and efficient instructional personnel to enhance the realization of the dreams and expectations of OTM programmes in our business world. The need for the provision of relevant material resources in every OTM department is no doubt importance, just as the stethoscope is to a medical doctor and farming tools to a farmer, so are the material resources to OTM lecturers/instructors and students. This is because the mastery in OTM courses will not be easy if not impossible without the use of relevant materials. Based on the findings of the study therefore, it could be concluded that this resources are only lecturers and instructors and physical facilities for OTM programme in polytechnics in South-South Nigeria are partly adequate while equipment and supplies for shorthand, typing and computer laboratories, model offices and office practice are grossly inadequate. This could be impacting negatively on the

preparation and performance of OTM graduates of these polytechnics over the years.

Implications of the Study

The results of the study indicate that human and material resources available for OTM are not adequate in all polytechnics in the area of the study. The implication of this finding is that students of OTM in these polytechnics are learning without relevant resources for effective teaching and learning. In some schools the few lecturers and instructors available are overused and may be engaged beyond their capability to the extent that their productivity and efficiency can hardly be guaranteed. Consequently, graduates of OTM programmes may not have the necessary skills and competencies to perform effectively in the world of work as a result of inadequate training. This means that OTM programmes in polytechnics in the area are operating below the standard set for them (NBTE, 2004).

Also, the findings of the study have implications for closer supervision by NBTE of the implementation of all the polytechnic curricular as well as regular review of the OTM curriculum in line with technological changes to enable the graduates fit in properly in modern offices and business environment.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. OTM lecturers and instructors should be adequately re-trained by polytechnic authority in line with the curriculum components especially on ICT to enable them deliver instructional activities effectively.
2. Most of polytechnics in the area should recruit and retain adequate number of lecturers relative to NBTE (2004), minimum standards.
3. Management of polytechnics in the area should provide adequate physical facilities for OTM department as stipulated by NBTE (2004), minimum standards.
4. Management of polytechnics should equip OTM laboratories and model offices with modern/latest equipment and facilities to enable training of students to acquire appropriate skills to fit into the modern offices.
5. OTM departments should regularly appraise and review the status of their instructional facilities in line with the minimum standards stipulated by the supervisory body.
6. The National Board for Technical Education (NBTE) should regularly supervise OTM programmes ensure that its stipulated standards are maintained.
7. The National Board for Technical Education (NBTE) should review the OTM curriculum at least every five years.

Limitations of the Study

The study may have been affected by the following limitations: First, the population involved only OTM lecturers, instructors, technologists and technicians in south-south Nigeria. As a result, the generalization of the findings is limited to the polytechnics in that area. Secondly, some heads of OTM departments were indifferent and reluctant in allowing the researcher access to their laboratories and model offices as well as giving information and number of students. This partly delayed the study. However, the researcher was able to handle the limitations to ensure that they do not affect the validity of the study and the findings.

Suggestions for Further Research

This study has helped to open up some areas for further research which include:

1. An assessment of OTM graduates' job performance in modern offices relative to the goals and objectives of the programmes.
2. Rating of availability and utilization of modern technology in training of OTM students.
3. Assessment of the implementation of OTM curriculum in polytechnics in other geo-political zone of the Nigeria.
4. Adequacy of NBTE (2004), on course offerings, graduation requirements and other educational resources not covered in this study.

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APPENDIX A

LETTER OF TRANSMITTAL

Department of Vocational Education,
Nnamdi Azikiwe University,
Awka.
15th April, 2013

Dear Respondent,

REQUEST TO COMPLETE QUESTIONNAIRE

I am a post graduate student of Nnamdi Azikiwe University, Awka. I am carrying out a research on Assessment of the Provision and resources Utilization for the implementation of OTM Curriculum in Polytechnics in South-South Nigeria.

As an OTM lecturer, you have been chosen as one of the respondents to this study. The results of the study will be used to make recommendations to educationists, National Board for technical Education (NBTE), Students and other authorities of Polytechnic education on ways of achieving the curriculum objectives.

I will highly appreciate if you could spare some time to complete this questionnaire and avail me the relevant information which will be helpful in this study. The information solicited is strictly for academic purpose and will be treated with strict confidentiality.

Thank you in anticipation of your cooperation.

Yours faithfully,

Ihionkhan Comfort E. (Mrs.)
(Researcher)

Assessment of the Provision and Resources Utilization for the Implementation of OTM Curriculum in Polytechnics in South-South Nigeria.

APPENDIX B1

DEMOGRAPHIC DATA

Instruction: Please supply the required information by ticking (✓) in the appropriate box.

1. Gender: (a) Male [ ] (b) Female [ ]

2. How long have you taught in the polytechnic?
   (a) 1 – 5 yrs [ ] (b) 6 yrs and above [ ]

3. Ownership of institution
   (a) Federal Government [ ] (b) State government [ ]

APPENDIX B2

Background Information of OTM Lecturers in South-south Polytechnics

S/No	Item	Frequency	Percentage (%)
1	**Gender:**		
	Male	48	60.8
	Female	31	39.2
	Total	**79**	**100%**
2	**Teaching Experience:**		
	0 – 5 yrs.	17	21.5
	Above 5yrs.	62	78.5
	Total	**79**	**100%**
3	**Ownership of Institution:**		
	Federal (Auchi Polytechnic)	20	25.3
	State (Other Five Polytechnics)	59	74.7
	Total	**79**	**100%**

APPENDIX B3

Available Material Resources for OTM Programme as recommended by NBTE

S/NO.	Material resources
1.	Typewriting laboratory
2	Electric/Electronic typewriting laboratory
3.	Computer laboratory (computer system)
4.	Shorthand laboratory
5.	Well equipped model office
6.	Ink duplicating machine
7.	Photocopying machine
8.	Steel-filing equipment
9.	Shredding machine
10.	Fax machine
11.	Letter opening machine
12.	Guillotine
13.	Addressing machine
14.	Staplers
15.	Punch machine
16.	Television
17.	Radio cassette player
18.	Projector system slides
19.	Electronic scanner
20.	Electric stencil scanner
21	Mini Departmental Bookshop
22	Generator

APPENDIX B4

QUESTIONNAIRE ITEMS

This section B is divided into nine sub-section. Sub section B1 to B7 items will be collected through a direct observation by the researcher. The observation will be recorded in an observation schedule prepared in accordance with National Board for Technical Education (2005) stipulation regarding instructional resources for office technology and management. Section B8 – B9 questionnaire will be used to collect data from the respondents, B8 contains 27 items on curriculum content. B9 contains 21 items on the extent of utilization of available materials resources for effective implementation of office technology and management curriculum.

B1 Adequacy of Personnel

S/N	Personnel	Available	Number Available	Not Available
1	Lecturers			
2.	Instructors			
3.	Technologist/Technician			

B2: Adequacy of Physical Facilities

S/N	Physical Facility for OTM	Available	Number Available	Not Available
1	Staff Offices			
2.	Model Offices			
3.	Classrooms			
4.	Typewriting Laboratories			
5.	Shorthand laboratories			
6.	Computer laboratories			
7.	OTM library/Book			

B3: Adequacy of Equipment and supplies for Computer/typewriting Laboratories

S/N	Equipment and Supplies	Available	Number Available	Not Available
1	Manual Typewriters			
2.	Electric/Electronic Typewriter			
3.	Swivel typing chairs			
4.	Tables			
5.	Stop watch			
6.	Wall clock			
7.	Filling cabinet			
8.	Computers			

B4: Adequacy of Equipment and Supplies for Shorthand Laboratory

S/N	Equipment and Supplies	Available	Number Available	Not Available
1	Central transmitting unit			
2.	Transistor			
3.	Receiver			
4.	Any suitable media with 3-4 unit			
5.	Selection channels			
6.	Headphones			
7.	Air conditional			
8.	Cubicles			

B5: Adequacy of equipment and supplies for office practices

S/N	Equipment and Supplies	Available	Number Available	Not Available
1	Five variety of typewriters manual/electronic, Short Carriage			
2.	One (1) photocopier			
3	One (1) steel filing equipment and accessories			
4	One (1) shredding machine			
5.	Two (w) Personal Computer with word processing equipment			
6.	Two (2) Electronic Desk calculators.			
7	One (1) Telephone equipment (Intercom).			
8.	One (1) Fax machine			
9.	One (1) Franking machine			

10.	One (1) Letter opening machine			
11	One (1) Guillotine			
12	One (1) Scanner			
13	One (1) Building Machine			
14	One (1) Laminating Machine			
15.	Any other equipment relevant to the programme			
16.	Generator compulsory for regular power supply to the department.			

B6: Adequacy of Equipment and supplies for model office

S/N	Equipment and Supplies	Available	Number Available	Not Available
1	Photocopy machine			
2	Electric typewriter			
3	Electronic typewriter			
4	Laminating machine			
5	Envelope opening machine			
6	Telephone exchange machine (mini)			
7	Dictating machine			
8	Modern digital radio system			
9	Television and video set system			
10	Satellite facilities			
11	Fax machine			
12	Mini Departmental bookshop			

B7:Adequacy of Resource/Business Centre

S/N	Resource/Business Centre	Available	Number Available	Not Available
1	1 No. Radio cassette			
2	1 No. Colour TV			
3	1 No. Video, machine/video CD/DVD			
4.	1 No. Projector and screen			
5.	Digital camera and printer			

6.	Compact Disc, etc.			
7.	Slides			
8.	Microfilm and Microfilming camera			
9.	Computer			
10.	Photocopiers			
11	Scanner			
12	Stapler, Punch, etc.			
13.	Binding machine			

Section B8: Adequacy of Curriculum Content

As an Office Technology and Management lecturer, please indicate the extent of adequacy of Office Technology and Management Curriculum components in your department.

Key: Very Adequate - VA
Adequate - AD
Fairly Adequate - FA
Inadequate - INAD
Very Inadequate - VINAD

National Diploma (ND) Courses

S/NO.	Items on adequacy of course content	VA	AD	FA	INAD	VINAD
1.	Technical English					
2.	Shorthand					
3	Information and Communication Technology (ICT)					
4	Office practice					
5	Touch keyboard					
7.	Career Development					
8.	Record Management					
9.	Social psychology					
10.	Web Page Design					
11.	Communication Skills					
12.	Small Business Management					
13.	Project					

	Higher National Diploma (HND) Courses:					
14.	Shorthand					
15.	Information and Communication Technology (ICT)					
16.	Office Administration and Management					
17.	Business Communication					
18.	Social Psychology					
19.	Research Methods					
20.	Professional Career Development					
21.	Database Management System					
22.	Oral Communication Skills					
23.	Advanced Desktop Publishing					
24	Management Information System					
25.	Professional Ethics and Social Responsibility					
26.	Advance Webpage Design					
27.	Project					

B9: Utilization of available material resources

As a lecturer or instructor, please indicate the extent to which you utilize the available material resources:

Key:

Very adequately utilized - VAU

Adequately utilized - AU

Fairly adequately utilized - FAU

Inadequately utilized - IU

Very inadequately utilized - VIU

S/NO.	**Material resources**	**VAU**	**AU**	**FAU**	**IU**	**VIU**
1.	Typewriting laboratory					
2	Electric/Electronic typewriting laboratory					
3.	Computer laboratory (computer system)					
4.	Shorthand laboratory					
5.	Well equipped model office					
6.	Ink duplicating machine					
7.	Photocopying machine					
8.	Steel-filing equipment					
9.	Shredding machine					
10.	Fax machine					

11.	Letter opening machine					
12.	Guillotine					
13.	Addressing machine					
14.	Staplers					
15.	Punch machine					
16.	Television					
17.	Radio cassette player					
18.	Projector system slides					
19.	Electronic scanner					
20.	Electric stencil scanner					
21.	Facsimile machine					
22	Mini Departmental Bookshop					
23	Generator					

APPENDIX C

POPULATION DISTRIBUTION

S/NO.	NAME OF POLYTECHNICS	NO. OF STAFF
1.	Auchi Polytechnic, Auchi, Edo State	26
2.	Institute of Management and Technology, Usen, Edo State.	9
3.	Delta State Polytechnic, Ozoro	17
4.	Delta State Polytechnic Ogwuashi-Uku	16
5.	Rivers State Polytechnic, Bori	16
6.	Akwa-Ibom State Polytechnic	14
	Total	**98**

APPENDIX D

NBTE (2004) ND AND HND CURRICULAR FOR OTM

National Diploma (ND) Programme in Office Technology and Management

FIRST YEAR: 1ST SEMESTER

Course Code	Course Title	T	P	CH
OTM I01	Technical English 1 (merged use of English 1 and Communication in English 1/GNS 1 & 2	2	2	4
BAM III	Introduction to Business 1	2	1	3
OTM III	Shorthand 1	2	2	4
OTM 113	ICT is (merged introduction to Computers and Introduction to Computer packages SET 113 & 123)	1	7	8
OTM 114	Office Practice 1 (before: Office procedure)	1	3	4
OTM 112	Touch keyboarding	2	2	4
	TOTAL	10	15	29

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

T – Theory, P – Practical, CH – Credit Hour
(*) – Course specification as stated on the General studies booklet.
GNS courses are courses taught by General Studies (GNS) lecturers

2ND SEMESTER

Course Code	Course Title	T	P	CH
OTM 214	ICT if (merges Word Processing Application 1 & II/SET 214 & 224)	1	7	8
BAM 126	Introduction to Entrepreneurship	1	2	3
BAM 113	Principles of law	1	2	2
OTM 122	Career Development	2	2	4
OTM 121	Shorthand II	2	2	4
OTM 124	Modern Office Technology (before: Office Technology)	1	3	4
OTM 124	Touch keyboarding	2	2	4
	TOTAL	10	18	31

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

3RD SEMESTER

Course Code	Course Title	T	P	CH
GNS 201	Technical English II (before: Use of English II & Communication in English II/GNS 201 & 202	2	2	4
GNS 228	Research Techniques*	2	2	2
OTM 211	Shorthand III (merges shorthand III & IV/SET 211 & 221)	1	3	3
OTM 213	Records Management	1	1	4
OTM 215	Office Practice II (before: Secretarial Duties)	1	3	8
OTM 216	Desktop Publishing	1	5	4
ACC III	Principles of Accounting	1	3	4
	TOTAL	9	19	28

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

4TH SEMESTER

Course Code	Course Title	T	P	CH
OTM 227	Social Psychology (before: Introduction to Sociology)	2	2	4
BAM 114	Principles of Economics 1	2	1	3
OTM 221	Web Page Design	1	7	8
OTM 222	Communication skills	1	3	4
OTM 225	Project	-	6	6
OTM 226	Small Business Management	1	1	2
	TOTAL	7	20	27

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

Higher National Diploma (HND) Programme in Office Technology and Management

FIRST YEAR: 1ST SEMESTER

Course Code	Course Title	T	P	CH
OTM 321	Shorthand IV (merges shorthand V & VI)	1	3	4
OTM 313	ICT office Application 1 (before: Advanced Word Processing Application and Keyboarding IV)	2	6	8
OTM 314	Office Administration and Management	2	2	4
OTM 315	Business Communication 1 (merges: Use of English III & VI)	2	2	4
OTM 316	Social Psychology	2	2	4
OTM 214	Business Law	2	2	3
	TOTAL	11	17	28

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

T – Theory, P – Practical , CH – Credit Hour

2ND SEMESTER

Course Code	Course Title	T	P	CH
OTM 225	Research Methods (*)	1	3	4
BAM 427	Nigerian Labour Law	2	2	4
OTM 322	Professional Career Development	2	2	4
OTM 123	ICT Office application II (before: Advanced spreadsheet Application & Keyboarding 6)	2	6	8
OTM 324	Office Administration and Management II	2	2	4
BAM 324	Human Capital Management	2	2	4
	TOTAL	11	17	28

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

3RD SEMESTER

Course Code	Course Title	T	P	CH
OTM 411	Advanced Transcription (merges Transcription 1 & 2)	1	3	4
OTM 412	Business communication II (Merged SMT 412 & GNS Communication English IV)	2	2	4
OTM 413	Database Management System	1	3	4
OTM 414	Oral Communication Skills	1	3	4
BAM 224	Elements of Human Resource Management (Personnel Management)	2	1	3
OTM 415	Advanced Desktop Publishing	2	6	6
	TOTAL	9	18	27

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

4TH SEMESTER

Course Code	Course Title	T	P	CH
OTM 423	Management Information Systems	1	3	4
OTM 424	Professional Ethnics and Social Responsibility (before: Professional ethics and secretarial management)	2	2	4
BAM 413	Entrepreneurship	2	2	4
OTM 425	Advanced Webpage Design	2	6	8
BAM 427	Nigerian Labour Law	1	2	3
OTM 422	Project	-	4	4
	TOTAL	8	19	26

Source: Curriculum & course specifications for National Diploma (ND) Office Technology and Management by NBTE, 2005

APPENDIX E
NBTE BENCHMARK FOR OTM IN ND AND HND PROGRAMMES
LIST OF EQUIPMENT FOR ND/HND OFFICE TECHNOLOGY AND MANAGEMENT PROGRAMME

Instructional Facilities for Computer, Typewriting and Shorthand	Office Practice Laboratory	Resource/Business Centre	Model Office	Staffing
.**For Single Stream of ND and HND the following should be provided:** (a) One manual typewriting laboratory with 35 manual typewriter per student and five as standby during practical. (b) One computer laboratory with 35 Computers and their accessories. (c) Laboratory for shorthand should be equipped with a central transmitting unit and transistor and receivers or any other suitable media with 3-4 multi selection channels, 31 headphones and 31 microphones. (d) The laboratory should have at least 30 cubicles to accommodate students at a time, furnished with rug and air conditioners. (e) One electric/electronic typewriting laboratory with 35 electric/electronic typewriter to be used in ND II, one per student and five as standby.	1. 5 No. Variety of Typewriters (Manual/ Electronic, short carriage). 2.. 1 No. Photocopier 3. 1 No. Steel Filing equipment and accessories 4. 1 No. Shredding machine 5. 2 No. Personal Computers with Word Processing Equipment 6. 2 No. Electronic Desk Calculators. 7. 1 No. Telephone equipment (Intercom) 8. 1 No. Fax Machine 9. 1 No. Franking Machine 10. 1 No. Letter Opening Machine 11. 1 No. Guillotine 12. 1 No. Scanner 13. 1 No. Binding Machine 14. 1 No. Laminating Machine 15. Any other equipment relevant to the programme. 16. Generator Compulsory for regular power supply to the department.	1. 1 No. Radio Cassette player 2. 1 No. Colour TV 3. 1 No. Video, Machine/Video CD/DVD 4. 1 No. Projector and Screen 5. Digital Camera and Printer 6. Compact disc, etc, 7. Slides 8. Microfilm and Microfilming camera 9. Computer 10. Photocopiers 11. Scanner 12. Stapler, Punch, etc. 13. Binding Machine	1. Photocopy machine 2. Electric typewriter 3. Electronic typewriter 4. Laminating machine 5. Envelope opening machine 6. Telephone exchange machine (mini) 7. Dictating machine 8. Modern digital radio system 9. Television and video set system 10. Satellite facilities 11. Fax machine 12. Mini departmental bookshop	1. Minimum academic qualification of Higher National Diploma Certificate in Secretarial Studies 2. First degree (Second Class Lower Division) in Business Education (B.Sc) Secretarial Studies). 3. Minimum Teaching Qualification of Post Graduate Diploma in Education. 4. At least one or two academic staff per a course depending on whether is single stream or double stream of ND/HND 5. Maximum of 2 computer degree lecturers for ND and HND. 6. 1 No. Technician/computer Technology to manage the computer laboratory. 7. One (1) Secretary 8. One (1) messenger/Dispatch clerk 9. One (1) Technician Typewriter Mechanic.

APPENDIX F

Z-Test

Notes

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	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
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Group Statistics

	Teaching experience	N	Mean	Std. Deviation	Std. Error Mean
Utilization of Material Resources for implementation of OTM Curriculum in South-South Polytechnics	1-5 yrs	17	2.4967	.39073	.15951
	Above 5 yrs	62	3.1182	.63462	.15392

Independent Samples Test

		Levene's Test for Equality of Variances		z-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Utilization of Material Resources for implementation of OTM Curriculum in South-South Polytechnics	Equal variances assumed	.737	.400	-2.234	77	.036	-.62157	.27819	-1.20009	-.04305
	Equal variances not assumed			-2.804	14.671	.014	-.62157	.22166	-1.09496	-.14818

Z-Test

Notes

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Group Statistics

	Eduactors' Gender	N	Mean	Std. Deviation	Std. Error Mean
Utilization of Material Resources for implementation of OTM Curriculum in South-South Polytechnics	Male	48	2.9694	.65516	.16379
	Female	31	2.9257	.64197	.24264

Independent Samples Test

		Levene's Test for Equality of Variances		z-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Utilization of Material Resources for implementation of OTM Curriculum in South-South Polytechnics	Equal variances assumed	.011	.916	.148	77	.884	.04366	.29520	-.57024	.65756
	Equal variances not assumed			.149	11.739	.884	.04366	.29275	-.59576	.68309

Z-Test

Notes

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Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.

Syntax		Z-TEST GROUPS=VAR00002(1 2) /MISSING=ANALYSIS /VARIABLES=VAR00054 /CRITERIA=CI(.95).
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[DataSet3] C:\Users\USER\Desktop\Ihiokhan general lect.sav

Group Statistics

	Teaching experience	N	Mean	Std. Deviation	Std. Error Mean
Mean Rating of curriculum Components for OTM Programmes in South-South Polytechnics	1-5 yrs	17	4.1367	.19775	.08073
	Above 5 yrs	62	4.0460	.22922	.05125

Independent Samples Test

		Levene's Test for Equality of Variances		z-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mean Rating of curriculum Components for OTM Programmes in South-South Polytechnics	Equal variances assumed	.291	.594	.873	77	.391	.09067	.10381	-.12360	.30493
	Equal variances not assumed			.948	9.439	.367	.09067	.09563	-.12414	.30547