



UNIVERSITI PUTRA MALAYSIA

***EXPLORING THE EXPERIENCE OF NIGERIAN WOMEN IN TECHNICAL
AND VOCATIONAL EDUCATION IN POLYTECHNIC INSTITUTIONS***

ROBERT THOMAS AKOR

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By

ROBERT THOMAS AKOR

**Thesis presented to the Senate of the Universiti Putra Malaysia in fulfillment of the
requirement for the Degree of Doctor of Philosophy**

March 2015

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DEDICATION

This work is dedicated to God almighty who gave me the strength, protection and sufficient grace. His grace has kept me through this work; to him I give all the glory, honour and adoration. To my wife, Florence Akor for her love, patience and wholehearted support. This is also dedicated to my lovely children for making everything worthwhile and to the soul of my beloved father in heaven.



Abstract of thesis presented to the Senate of the Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

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ROBERT THOMAS AKOR

March 2015

Chairman : Ab. Rahim Bin Bakar, PhD

Faculty : Educational Studies

Nigerian government is making frantic efforts to drive her economy by laying emphasis on technical and vocational education to enable her compete favorably in the global market. Emphasis of government is in Polytechnic education where skills for self-reliant and economic growth are a priority. However, women are not embracing this opportunity by participating in technical and vocational education that will equip them with skills and contribute to national development. Opportunities need to be explored as to ensure their participation in nation building. Therefore, the aim of this study was to explore the experience of Nigerian women in technical and vocational education in Polytechnic institutions.

The in-depth information about the phenomenon formed the basis to improve the access and participation of women in this field. Specifically the research question includes (1) How do Nigerian women portray their position in technical and vocational education? (2) What are the reasons given by Nigerian women for the underrepresentation of women in technical and vocational education in Polytechnic Institution? (3) How do the Nigerian women strategize themselves to remain viable in technical and vocational education environment? (4) How do Nigerian women foresee the action to be taken to resolve underrepresentation in technical and vocational education in Polytechnic Institution? The qualitative research design which employed the use of phenomenological methodology was used in conducting this study. The participants comprised female students enrolled in technical and vocational education in Polytechnic Idah. In all 14 prospective participants were selected from the Polytechnic using purposive sampling technique.

The primary data collection technique that was adopted for this study was interview. Observations, review of documents and field notes were employed to supplement the data collected. The data collected were analyzed according to categories and themes and the findings and discussions were presented according to each research question. Triangulation, peer review and member checks were used to validate the findings. Going by the research questions several information and findings include stereotyping, intimidation, sexual harassment, culture, among others as women's experience in technical and vocational education in Polytechnic. For Nigeria to attain her technological fit the challenges confronting women in technical and vocational education must be recognized and fought vigorously. Unless women have increased access to technical and vocational education in order to build diverse technical and vocational skills their vulnerability to unemployment and poverty will be on the rise. There is need for comprehensive reform toward technical and vocational education and a deliberate attempt to lift the status of women in this program the only panacea to technological ender ado in Nigeria. Technical and vocational education can serve an unprecedented role of breaking the economic divides that generate imbalances in the lives of men and women. The findings of this study will guide government and other agencies responsible for education to develop a framework for improving the access and participation of women in technical and vocational education.

Abstrak Tesis dikemukakan kepada Senat Universiti Putra Malaysia sebagai Memenuhi
Keperluan untuk ijazah Doktor Falsafah

**MENELITI PENGALAMAN WANITA NIGERIA DALAM PENDIDIKAN
TEKNIKAL DAN VOKASIONAL DI INSTITUSI POLITEKNIK**

Oleh

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Kerajaan Nigeria sedang berusaha bersungguh-sungguh memacu ekonominya dengan memberi penekanan kepada pendidikan teknikal dan vokasional bagi membolehkan Nigeria bersaing di pasarandunia. Penekanan kerajaan adalah terhadap pendidikan Politeknik yang mengutamakan kemahiran berdikari dan perkembangan ekonomi. Walau bagaimanapun, wanita tidak mengambil peluang ini dengan melibatkan diri dalam pendidikan teknikal dan vokasional yang dapat memberi mereka kemahiran seterusnya menyumbang kepada pembangunan negara. Peluang-peluang perlu diteroka bagi memastikan penyertaan mereka dalam pembangunan negara. Oleh itu, kajian ini bertujuan untuk mengkaji pengalaman wanita Nigeria dalam pendidikan teknikal dan vokasional di institusi Politeknik.

Maklumat mendalam tentang fenomena ini dapat dijadikan asas untuk memperbaiki penglibatan dan penyertaan wanita di bidang ini. Secara khusus soalan kajian termasuklah (1) Bagaimana wanita Nigeria menggambarkan kedudukan mereka dalam pendidikan teknikal dan vokasional? (2) Apakah sebab-sebab yang diberi oleh wanita Nigeria terhadap gambaran mereka yang tidak tepat dalam pendidikan teknikal dan vokasional di institusi Politeknik? (3) Bagaimana wanita Nigeria menstrategikan diri mereka dalam persekitaran pendidikan teknikal dan vokasional? (4) Bagaimana wanita Nigeria melihat tindakan yang akan diambil bagi menyelesaikan gambaran yang salah dalam pendidikan teknikal dan vokasional di institusi Politeknik? Reka bentuk kajian kualitatif yang menggunakan kaedah fenomenologi telah digunakan dalam kajian ini. Peserta kajian terdiri daripada pelajar perempuan yang mendaftar dalam pendidikan teknikal dan vokasional di Politeknik Idah. Sebanyak 14 peserta dari Politeknik dipilih menggunakan teknik persampelan bertujuan.

Teknik pengumpulan data primer yang digunakan dalam kajian ini adalah temu bual. Pemerhatian, semakan dokumen dan catatan lapangan turut digunakan bagi menambahkan maklumat yang dikumpul. Data yang dikumpul dianalisis mengikut kategori dan tema dan hasil kajian serta perbincangan dibentangkan mengikut soalan kajian. Triangulasi, ulasanrakan se bidang dan semakan oleh pakar digunakan bagi mengesahkan dapatan kajian. Berpandukan soalan kajian ditemukan beberapa maklumat dan hasil kajian mendapati penstereotaipan, ugutan, gangguan seksual, budaya, adalah antara perkara yang dialami oleh wanita dalam pendidikan teknikal dan vokasional di Politeknik. Bagi mencapai teknologi, cabaran yang dihadapi oleh wanita Nigeria dalam pendidikan teknikal dan vokasional hendaklah dikenalpasti dan dibanteras sekerasnya. Pengangguran dan kemiskinan dalam kalangan wanita akan terus meningkat kecuali jika mereka mendapat pendidikan teknikal dan vokasional bagi meningkatkan kemahiran yang pelbagai di bidang ini. Terdapat keperluan untuk pembaharuan menyeluruh terhadap pendidikan teknikal dan vokasional dan usaha untuk mengangkat status wanita dalam program ini yang dianggap sebagai satu jalan keluar untuk pembangunan teknologi di Nigeria. Pendidikan teknikal dan vokasional boleh berfungsi untuk meleraikan pembahagian ekonomi yang menyumbang kepada ketidakseimbangan dalam kehidupan lelaki dan wanita.

Hasil kajian ini dapat membantu kerajaan serta agensi lain yang bertanggungjawab dalam pendidikan bagi membina kerangka kerja memperbaiki penglibatan dan penyertaan wanita dalam pendidikan teknikal dan vokasional.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CEDAW	Convention on All forms of Discrimination against Women
FAWE	Forum for African Women Affairs
FGN	Federal Government of Nigeria
FME	Federal Ministry of Education
FMWASD	Federal Ministry of Women Affairs and Social Development
FMWACD	Federal Ministry of Women Affairs and Child Development
GDP	Gross Domestic Product
JSS	Junior Secondary School
ILO	International Labor Organization
MDG	Millennium Development Goal
NAS	National Accounting System
NAWSTEM	National Association of Women in Science, Technology, Engineering and Mathematics
NBTE	National Board for Technical Education
NPE	National Policy on Education
NEEDS	National Economic and Development Strategy
OAU	Organization of African Unity
OECD	Organization for Economic Cooperation and Development
STEM	Science, Technology, Engineering and Mathematics
SET	Science, Engineering and Technology
SEDS	State Empowerment and Development Strategy
STAN	Science Teachers Association of Nigeria
UNESCO	United Nations Educational Scientific and Cultural Organization

CHAPTER 1

INTRODUCTION

1.1 Introduction

Nigerian government and individuals are increasingly realizing that technological acquisition and development through technical and vocational education is a precursor to social, economic and industrial development of the country. Technical and vocational education (TVE) according to National policy on education (FME,2004) is defined as that aspect of education which leads to acquisition of practical and applied skills as well as basic scientific knowledge. Technical and vocational education is a type of training designed to prepare the individual learner to be self-reliant and increase her earning in occupation where technical information and understanding of the law of science and technology as applicable to modern design, production, distribution and services is essential for success (Bebbiaflai, 2003). In other words, TVE is meant to prepare beneficiaries for employment in recognized occupation by inculcating skills, knowledge and attitude needed for utilizing the natural resources needed for economic development of the nation and for personal improvement.

Technical and vocational education involves manual dexterity (use of hands) that is practical skills. It is a profession that demands competencies and specific work habits, commitment, high articulation to design, construct, maintain and repair technological goods. Practical work consumes energy and demands high level of coordination. The National Policy on Education (FME,2004) stated the goal of technical and vocational education as program that should provide trained manpower in the applied science, technology and business. It is also education that provides training particularly at craft, advanced craft and technical levels. It provides the technical knowledge and vocational skills necessary for agricultural, commercial, economic development and gives training and impacts the necessary skills to individual who shall be self-reliant economically. Achievement of the above stated objectives would be to the extent of producing and ensuring high quality and quantity of human resources. Production of human resource invariably entails equipping the youth (both male and female) with employability skills in technology that will enable them live a functional and productive live.

The scenario in Nigeria has been more male seeking and acquiring technological skills than female. This no doubt spells doom for the technological development and emancipation of the country especially as over half the entire population are females. The census figure (2006) showed that females constitute more than 50 per cent of the total population therefore; they must be involved in all spheres or plans of the country's labor force including technical and vocational education. Egun & Tibi (2010) observed

that, Nigeria educational system, especially technical and vocational education which have high potential to create jobs for the unemployed and solve most of the human problems, is yet to be embraced by majority of Nigerian women. Girls and women are very important in nation building. National development is achieved only when individuals (women and men) in any nation produce to the limit of their capabilities (Ogbuanya, 2008). Therefore, there can be no meaningful development in Nigeria if women are deprived of the opportunity to acquire technical and vocational education skills.

It is as a result of the desire for technological development that the Federal Government in her revised version of National Policy on Education (FME, 2004) gave prominence to technical and vocational education. To achieve technological development, the National Policy on Education (NPE) stated that a greater proportion of the expenditure on education shall be devoted to science and TVE courses in the Polytechnic; the weighting is 70:30. The 2004 version of (NPE) embodied some policy innovation and change including repositioning science, technical and vocational education for optimum performance. Another relevant part of the NPE is the emphasis on education as an instrument per excellence for national development, and that every child shall have the right to equal education opportunities irrespective of any real or imagined disabilities. From the provision of the NPE, it appears that Nigeria is concerned, not only with accessibility but also the equality of that accessibility in terms of national development. The NPE emphasized qualitative accessibility which implies that every Nigerian citizen, all girls and boys, women and men in school should be able to study those courses that are of national relevance without any hindrance. It also stressed the need for all Nigerians to be scientifically and technological literate in order to be able to exploit personal, national and natural resources to contribute to national development

However, in spite of this policy, Nigerian women remain underrepresented in technical and vocational education in Polytechnic institutions. The high demographic size, the importance role women play in the economic development in Nigeria and the low participation in technical and vocational education make it imperative to promote and encourage women access and participation in this field. Thus, there is a need to explore the experience of the few women in technical and vocational education as to the underrepresentation of women in this field so as to bring in more women into technical and vocational education career.

1.2 Background

Even though women now constitute more than half of the population in Nigeria the distribution of women across fields of study is still very uneven (Mastekaasa & Smeby,

2008). In many parts of the world, women participation in technical and vocational education and other technical related fields in both educational and career setting is extremely low (Rapson, 2010). In many African countries women account for less than 15 per cent of enrollment in TVE and training (Atchoarena & Delluc, 2002). In Nigeria women have consistently been proportionally underrepresented in technical and vocational education, most particularly, at the Polytechnic institution. Technical and vocational education discipline shows much lower participation by females than do males.

Skill required for technological development in Nigeria is acquired from higher education, most particularly, from Polytechnic. It is in attempt to meet her technological development that The Federal Polytechnic Idah was established by the Obasanjo Administration in 1977 along with three others as an aggressive attempt by the then Military Administration to provide solution to the problem of middle level manpower in the country. The establishment was backed up by Decree No. 33 of 25th July 1979.

Apart from the Universities, the (1) Polytechnic (2) College of Technology and (3) Monotechnics are the post-secondary/tertiary level institutions for the training of technician/technologist. The Polytechnic operate a two-tier program of studies broken into the National Diploma (ND) and Higher National Diploma (HND) levels. Students that have completed an ND program compulsorily undergo a minimum period of one year industrial experience as a pre-requisite for entry into HND programs. The Polytechnics institutions are many in Nigeria It is reported that there are over 200 Polytechnics in Nigeria. Polytechnic/Monotechnics recognized by the National Board for Technical Education (NBTE). The NBTE was established in 1997 as an outcome of Nigeria's third national development plan to coordinate and advice on the aspect of technical and vocational education.

The Polytechnics fall under varying proprietorship. They are either owned by federal government, state or privately owned and the expectation from the federal government is for all of them to enjoy NBTE accreditation. The NBTE ensures uniformity of practice and maintenance of quality assurance with regards to ensuring institutional relevance of curriculum and maintains an acceptable standard of practices. Accreditation is usually subjected to renewal after a period of five years. Also, regardless of the status of the technical colleges, for instance, whether a (1) Polytechnic (2) College of Technology and (3) Monotechnic, they are saddled with the achievement of the same objective as spelt out in Decree No. 16 of 1985 that established these institutions to:

1. The provision of technical knowledge and vocational skilled necessary for agriculture, industrial, commercial and economic development.

2. The provision of qualified and well equipped personnel to apply scientific knowledge to the improvement and solution of environmental problems for use and convenience of man.
3. The introduction of professional studies in engineering and other technologies.
4. The provision of training to impart the necessary skills leading to the production of technicians, technologists, engineers and other skilled personnel who will be enterprising and self-reliant.

Polytechnic institutions are meant to produce personnel's who will be enterprising and self-reliant thus fulfilling specific needs of local economies (Böckerman et al., 2009). The quality and quantity of human resources needed in Nigeria demand that both male and female supposed to acquire skills for technological development. Unfortunately females seem to shy away from technical and vocational education programs especially at the Polytechnic Institution. There are encouragement for women to move into historically male-dominated environment (Englander, 2012). Yet women who try to refuse to obey the conventional female career pattern and choose to pursue careers in technical and vocational education often return to careers that accommodate their roles as primary caregivers (Cha, 2013).

The difficulties women encounter in attempt to penetrate successfully and preserve in historically male-dominated technical and vocational education emanate from traditional gender hierarchies and norms that prevail in the family and society. Despite gender equality, the household unit in Nigeria has a traditional structure-and still has—that makes male the dominant gender (Hegewisch et al., 2010). The blueprint on women education identified certain problems in relation to the education of women among which are socio-cultural factors. These include early marriage, economic factors, such as cost of acquiring education, school location pattern in urban and rural areas, opportunity cost of formal education to parents, time spent on household activities, sex stereotyping in occupational choices, curriculum and instructional materials among others.

Socio-cultural factor has been a constraint to women education in Nigeria. There are some traditional roles assigned to males and females for instance, for females, nursing, teaching, cooking, for males, science, engineering, etc. The masculine image associated with TVE courses had been attributed to be among the reasons for non-orientation of women in this field. It has been noted that there are many more men than women in TVE in Nigeria. Women of all ages avoid occupations which they consider to be exclusively meant for men for fear of being discriminated against (UNESCO, 2002). Courses taken to be exclusively for men include engineering and other related fields such as technical and vocational education. Such belief may have come from the fact that society and culturally women are taken to be weaker sex especially when task involved demand high energy input.

This type of negative belief is sown deep in the sense of boys from birth. They are made to believe that they are superior to girls. Boys are trained to take up challenges and risks more than females. The latter is culturally trained to take up less challenging tasks that will enable them fare well in the kitchen and in other family chores instead of technical and vocational education programs. Apart from socio-cultural barriers and negative beliefs about what women can or cannot do in terms of occupation, there are other barriers that could be responsible for underrepresentation of women in technical and vocational education. These include inadequate functional facilities and types of skills being acquired from TVE programs.

Technical and vocational education is a practical oriented course. Its teaching and learning involves more than ordinary classroom. Technical and vocational education provides experiences, which enable individuals to develop competences and skills needed for an occupation. However, women appear to be underrepresented in technical and vocational education. Well-equipped workshops and other infrastructure is a prerequisite for all technical and vocational education courses. Uline et al., (2008) stated that quality of facilities has impact not only on education outcomes but on the wellbeing of the students and teachers. Unfortunately, TVE environment is lacking in Nigeria and the infrastructure and other conditions are grossly inadequate for the installation of TVE equipment even when it is available.

Lack/insufficient teaching material constitute major impediments to success in technical and vocational education (Okwori, 2004). Females by culture and orientation are not trained for strenuous tasks as involved in technical and vocational education. They fancy comfort and fare better in conducive, less stressful conditions. If functional and adequate facilities such as state-of-art equipment, adequate learning material are provided, more females will be attracted to technical and vocational education programs to acquire the necessary skills needed for occupation. The type and extent of skills developed can be a source of attraction of females into technical and vocational education. Krogh et al., (2009) affirms that effective skill development system is connecting education to technical training, technical training to labor market training entry, and labor market training entry to workplace and life-long learning. When females can link skills being acquired in technical and vocational education institutions to employment opportunities, no doubt, they will be motivated to learn such skills. The acquisition of technological skills is a productive venture that can help women become self-reliant and self-employed.

Realizing the enormity of the problem in the educational system with particular reference to underrepresentation of women in TVE, the Federal government of Nigeria directed that pre-vocational subjects be introduced at the secondary school level (FME, 2004). The

policy directed that women should be encouraged to pursue courses in science and technology. In its effort to see that women embrace education and TVE in particular, the Federal Ministry of Education created the women education branch with the objective of promoting public enlightenment of the need to educate women, providing more adequate opportunities for women, encouraging women participation in social and economic activities in the country.

In Nigeria, national and professional bodies consisting of women only began to be organized. An important achievement was the establishment of the National Association of Women in Science and Technology, Engineering, and Mathematics (NAWESTEM). The Ministry of Education also established a woman education centre and women unit in each state of the federation. The major objective of ministry thus was the promotion of education of women in the field of science, technology and mathematics (STM). In order to motivate girls further to study STM oriented subjects, scholarships were awarded by the Federal Ministry of Education to senior secondary school girls who excelled in STM subjects in the Junior Secondary School (JSS) examination.

The Federal government gave prominence to enrolment of women in TVE because they constitute a critical mass of non-harnessed potentials in the country that if given the opportunity in technical and vocational education would contribute to national development. In spite of all these numerous efforts of the government to attract women into science and technical and vocational education, women are still underrepresented in this field that prepares students in high paying occupation in science, technology, engineering and mathematics (STEM).

The labor market are characterized by women being employed on lower hierarchical levels, they occupy low-quality jobs and belong to the first to lose their jobs in particular during time of fast technological changes and economic crisis (Beringhausen, 2000). About 60 per cent of all working women in Nigeria are concentrated in the female fields such as school teaching and nursing National Bureau of Statistics (NBS,2009). Countries differ in the extent of educational segregation by gender, but certain regularities are evident with health/welfare, education and art courses dominated by women and engineering dominated by men. Countries with high level of educational segregation by gender are found to have higher level of occupational segregation by gender (Marks, 2008). Women's inadequate technical and vocational education skills deny them the opportunity of employment in lucrative and well-paying jobs. Unless women acquire training in TVE, they will continue to be segregated in the workforce. The women gap in technical and vocational education is rooted in attitudinal, structural and systematic gender based inequalities, Federal Ministry of Women Affairs and Social Development (FMWACD, 2008).

Women constitute 50 per cent of the total population of Nigeria and so cannot be overlooked in their underrepresentation in TVE program. There has been so far no serious correction programs aimed at promoting TVE program among girls/women in Nigeria. Most of the work on Nigerian women in technical and vocational education has been opinion papers. No qualitative research work has been carried out to find from this few women in the program their experiences in the field and how to gain insight so that more women can be attracted to this program that has been dominated by men. An awareness of this stimulated this effort at exploring the experience of Nigerian women in technical and vocational education in Polytechnic Institution.

1.3 Statement of the Problem

Skills required for technological development in Nigeria are acquired from Polytechnic. Polytechnic institutions are meant to provide technical knowledge and skills that are relevant to industry and also skills to individuals that will make them enterprising and self-reliant. The human resources in Nigeria demand that both male and female supposed to acquire skills for technological development. Unfortunately, women seem to shy away from technical and vocational education courses especially in Polytechnic.

Clear evidence is seen in student's graduation for 2005-2007 in Architectural Technology, Building Technology, Civil Engineering Technology, Electrical/Electronic Engineering, and Electrical Power Machine Engineering Craft Practice. Out of 5340 students that graduated in this field, women accounted for 13.6%. For enrolment into the same program for 2004, out of 21576 student's women accounted for 13.9%. For Secretarial Studies, Marketing and Food Technology, out of 12368 student's women accounted for 66.3% National Bureau of Statistics (NBS, 2009).

Limited female access and participation in TVE, demonstrate why Nigeria is having problem becoming internationally competitive. Females are integral part of the society and are expected to contribute to national development. It is not a coincidence that the most human and material developed countries of the world are also the most educationally developed and progressive nation. They have been able to put in place TVE systems, which considered the vital role of women in technological development. For instance, the shortage of technical workers in the United States has been estimated at costing as much as \$4 billion a year in lost production (Wentling & Thomas, 2006:19). Four billion dollar money seems like a small portion of Gross Domestic Product (GDP) for big country like the United States, but for small developing country like Nigeria this could mean a substantial difference in living standard. In spite of promotional efforts of the German government in TVE the proportion of women in this program remains small.

Wiborg (2010) stated that these gender inequities in TVE are extracting high economic costs and leading to social inequalities in Germany.

There has been a renewed interest in training and skills development in Netherland because of increased evidence that minimalist approach to microfinance for poverty reduction and enterprise development did not lead to sustainable growth (Barlett, 2009). The author argues that women are not catered for in TVE program and often directed towards typical female occupation. If social and educational circumstances are made conducive to women participation in technical and vocational education, they have potential to bridge this gap (Cukier & St, 2001).

There is perennial problem of unemployment in Nigeria among the youth and worst hit in this phenomenon are young women. There is a massive effort by the government of Nigeria to drive her economy so as to attain technological development. In order to succeed in tackling her unemployment and achieve technological development, government is making concerted effort to see that men and women embrace technical and vocational education in Polytechnic institution where training required for them to be self-reliant and contribute to economic growth is priority. Even though other educational sectors are not left out in the drive to reduce unemployment and achieve technological development, emphasis of the government is in the area of technical and vocational education. It is as a result of the need to prepare her citizenry for self-reliant and economic development that the government placed more emphasis in Polytechnic education by giving more preference to admission into TVE programs as compared to liberal art programs (FME, 2004).

Despite of all the efforts the government is making in this direction women /young girls are not embracing the opportunity. The underrepresentation of Nigerian women in TVE presents a need for additional research to examine, understand and describe the phenomenon from the perspective of Nigerian women in technical and vocational education in Polytechnic Institution. The essence is to gain knowledge about the experiences and condition that contribute to the underrepresentation of Nigerian women in TVE or to why the phenomenon continues to exist in Polytechnic institution.

1.4 Research Objectives

The research will attempt to achieve the following objectives

1. To explore how Nigeria women portray their position in technical and vocational education

2. To determine reasons given by the female for the underrepresentation of women in technical and vocational education
3. To describe how female students strategize themselves to remain viable in technical and vocational education environment
4. To explore the possible action to resolve underrepresentation of women in technical and vocational education

1.5 Research Questions

The research will attempt to answer the following questions

1. How do Nigerian women portray their position in technical and vocational education?
2. What are they reasons given by Nigerian women for the underrepresentation of women in technical and vocational education in Polytechnic institutions?
3. How do Nigerian women strategize themselves to remain viable in technical and vocational education environment?
4. How do Nigerian women foresee the actions that be taken to resolve underrepresentation in technical and vocational education in Polytechnic institutions?

1.6 Significance of the finding

The study on experience of Nigerian women in technical and vocational education in Polytechnic will be of immense benefit to government to develop policy framework for improving the enrolment of women in technical and vocational education. It is hoped that the outcome of this study will guide policy makers in coming out with paradigms that would remove gender inequality in TVE, after restructuring the old policy on technical and vocational education.

The findings of this study could be used to establish policy guidelines for the TVE training of women. The information generated from this study will enable the Federal Government and State Ministry of Education to reorganize TVE program and facilities to make them attractive and accessible to females. The findings of this study if implemented in Polytechnic programs could go a long way in helping the technical and vocational education students during training to acquire skills necessary for employment in manufacturing industry. The National Board for Technical Education (NBTE) that is charged with the responsibility of accreditation of programs and enforcement of standard in technical institutions may use the outcome of this study to come up with standards for future planning of TVE courses that will enhance the enrollment of females in this field.

The findings of this study would be useful to TVE education teachers. This is because based on the findings; the authority could make serious efforts to provide those materials and infrastructure identified by the study to enhance women enrolment in technical and vocational education program. The provision of these facilities will enhance these skill acquisition desires of trainees. The findings of this study will also equip technical teachers with adequate information that will help to increase women enrolment in technical and vocational education. This study will also benefit women in general who will as a result of the new information acquire useful skill for gainful employment and self-reliant. Curriculum planners or developers in technical and vocational education will also benefit from the findings of this study, as it will help them to identify and include in the curriculum those courses and facilities suitable for both male and female in technical and vocational education field.

More significantly, the findings of this study will help to change attitudinal perceptions of parents towards women education, particularly in the field of TVE and provide them information on how to encourage their girl-child to enroll in TVE programs. The findings of this study would be useful to parents who deny their female children equal educational opportunities in technical and vocational education. Furthermore, this study would be useful to scholars of girl-child education because it would add to the existing literature in this area.

The future planning based on the formation of new policy on equity will motivate students and teachers and improve the participation of women and also enhance teaching and learning processes in technical and vocational education programs. More importantly too, the study would be useful to the society who have the cultural believe that TVE is a male preserve.

1.7 Scope

The study explored the experience of Nigerian women in technical and vocational education in Polytechnic institution. Thus the scope of the study lies on the strength of the students experience in technical and vocational education. Since the study was designed to explore the experience of Nigerian women in TVE from the respondents point of view.

Numerous empirical studies have been conducted to identify factors and issues associated with women in TVE programs, which the focus of interest lays on the identification and examination of determinants or factors in women in nontraditional programs. The multi-level comprehensive data are analyzed by quantitative methods,

since the main goal of the study is to identify overall generalizable results for different scope and level of analysis. However, if the interest of this study lies in the context in which people experience everyday life, then the phenomenological method approach is more appropriate.

The study was carried at Federal Polytechnic Idah where the students are enrolled in technical and vocational education program. Participants included women who met the following specific criteria (1) have attended a primary school for six years (2) attended junior secondary school (3) attended senior secondary school (4) attended National Diploma (ND) from government approved or recognized institution (5) have had one year compulsory work experience and (6) must be in the first or second year of Higher National diploma (HND) in technical vocational education program.

1.8 Limitation

The participants might have perceived engaging in interview process to be an invasion of privacy. The length of time to conduct the interviews factored into the participants availability and willingness to contribute to the study. Cultural differences between participants and the inquirer might have limited the participant's honesty and openness. The research is an exploratory study of women experience in technical and vocational education in one Polytechnic. The study did not make comparisons between female students from different institution. In addition, as a result of the nature of this study with limited number of subjects, the findings may not be generalizable to other samples and population. This is because the focus of this study was to provide an in-depth understanding of the experience of Nigerian women in technical and vocational education in Polytechnic institution. The findings however, may be useful to any population which has similar characteristics to the sample of the present study (Merriam, 2014).

Being an indigene of Kogi State and knowing the Polytechnic environment could be either strength or weakness of the research. Since the participant knew the researcher's work profile being a lecturer, they may have been cautious with their responses to interview questions. This bias could potentially weaken the study results. On the other hand, knowing that the researcher is an outsider interested in hearing their voice in this field would result in the researcher getting their trust and support for this study. As a novice in qualitative phenomenological research, the researcher tried to improve on his skill and abilities as the study progressed. Applying phenomenological research method for this study has exposed the researcher to many methodological difficulties; however, the learning experience was very useful for his skill in qualitative research. All the data collection and analysis for this study is the work of the researcher however, peer checking was aided by experts and researcher supervisors input are included in this

work. In spite of the limitations, this study makes a significant contribution in exploring the experience of Nigerian women in technical and vocational education in Polytechnic institution.

1.9 Definition of Terms

Technical and Vocational Education (TVE): Technical and vocational education is any kind of education which has the main purpose of preparing one for employment in recognized occupation. The foundation of TVE is based on philosophy which was mainly established for self-employment and self-reliance of the individual(s) who partake in it (Kennedy, 2011). UNESCO-ILO, 2002 (in Opurum & Christopher, 2011) defines it as a means of preparing for occupational fields and effective participation in the world of work. It is an aspect of lifelong learning and preparation for responsible citizenship. Technical and vocational education courses include Architecture, Building Technology, Civil Engineering, Metallurgical Engineering Technology, Power Engineering Technology, Quantity Surveying etc.

Polytechnic: Constitute a new non-university sector in Nigeria higher education and they were established side-by-side with the existing universities. Importantly non-university higher education exists around the world and in Nigeria in particular. Typically this institutions offer a wide spectrum of programs in TVE that qualify student for specific occupation or prepare for a profession. A distinguishing features compared to the universities is that the guides are more practically oriented thus fulfilling specific needs of local economies (Böckerman et al., 2009).

Non-Traditional Occupation: Occupations with less than 30% of workers of the same sex (Perrone, 2009). Examples of nontraditional careers for women include science, engineering, careers in trades and construction.

STEM: The study of science, technology, engineering and mathematics, is at the core of technical and vocational education. As we move into the information age, it is difficult to talk about technical and vocational education without discussing areas of science, technology, engineering and mathematics (Sanders, 2001).

Gender: Refers to the social differences between males and female. It refers to what has been passed down by the society to male and females from different groups about their roles and responsibility (Mustapha & Long, 2010).

Experience: The experience as used in this study comprise earlier events in the life of the participants, current event in technical and vocational education or those arising from the participants participation in technical and vocational education in Polytechnic institution. The participants experience could be expressed individually, collectively or both in order to draw meaning from it in the light of prior experience (St, Il-, & Blanco, 2003).

Nigerian Women: Nigerian women in this study are female students enrolled in technical and vocational education program such areas as Architecture, Building Engineering, Civil Engineering, Metallurgical Technology, Power Engineering Technology, Quantity Surveying etc. offered by in Polytechnic institution.

1.10 Summary of Chapter One

Experience of women in TVE fields is documented problem in education industry. If the experience of women in this field is ignored it then mean women will be denied of academic and job opportunities in the TVE areas and ultimately this will affect the society as it will not benefit from the important contributions women could make. The researcher hopes to come up with suggestions that will improve the enrolment of women in TVE so that women could take their rightful position in the workplace.

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