

**ANALYSIS OF CONSTRAINTS TO THE EMPLOYABILITY OF INDUSTRIAL
TECHNICAL EDUCATION GRADUATES OF UNIVERSITIES IN NIGERIA**

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BENIN CITY.**

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**A PROJECT PROPOSAL WRITTEN IN THE DEPARTMENT OF
VOCATIONAL AND TECHNICAL EDUCATION
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DEGREE OF BACHELOR OF SCIENCE EDUCATION B.Sc (Ed) IN
INDUSTRIAL TECHNICAL EDUCATION UNIVERSITY OF BENIN, BENIN
CITY.**

JANUARY 2023

APPROVAL

I hereby certify that this work submitted to the Department of Vocational and Technical Education, University of Benin, Benin City by Rowland Amanesi SIDI, is adequate in scope and quality for the partial fulfilment of the award of Bachelor of Science (Education) degree in Industrial Technical Education (Building and Woodwork Technology).

DR. S.O OSUYI

DATE

CERTIFICATION

We the undersigned certify that this research project was carried out by **Rowland Amanesi SIDI**, with matriculation number **EDU1703836** in the Department of Vocational and Technical Education, Faculty of Education, University of Benin, for the award of Bachelor of Science (Education) Degree in Industrial Technical Education (Building and Woodwork Technology).

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DEDICATION

This research work is dedicated to God Almighty for giving the researcher strength, knowledge, resources, and healthy life. The researcher also dedicates this work to her parents, Mr. and Mrs. Vincent Sidi for being a source of inspiration to the researcher both morally, emotionally and financially.

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ABSTRACT

The study analyzed the constraints to the employability of industrial technical education graduates of universities in Nigeria. Three research questions were raised to guide the study. Descriptive survey research design was used for this study. The population of this study was made up of 66 graduates of the 2019/2020 and 2020/2021 session from University of Benin, Benin city, Edo state. The total 66 graduates were purposively sampled. The instrument used for the study was structured questionnaire. The instrument was face validated by the researcher's supervisor and two other experts in the Department of Vocational and Technical Education. The reliability of the instrument was ensured by using Cronbach Alpha reliability computation which yielded a co-efficient index of 0.74. The data collected were analyzed using simple percentage, mean (\bar{x}) and standard deviation. The findings show that there is inadequacy of workshop space areas, instructional facilities as well as instructors and lecturers. The study recommended that government and relevant stakeholders in technical education should provide adequate workshop spaces, facilities, also train and employ instructors. Regular maintenance, evaluation of the available facilities in universities offering the course in order to meet the challenges of employability in the industries and skills demand.

CHAPTER ONE

INTRODUCTION

Background to the Study

The issue of graduate employability has been a source of major concern in Nigeria as to whether our educational institutions are meeting the need for their establishment. Employability of graduates to a large extent determines the functionality and viability of a school program. Therefore, this study identifies employability of Technical Education graduates as an area that needs to be properly explored with regards to the level of training received in their workshops. Indications from previous studies are that school graduates are not well prepared for the world of work as there exists a gap between the skills acquired in schools and that which require (Hennemann & Liefner, 2010; Rasul & Mansor, 2013).

Vocational and Technical Education (VTE) is an aspect of education designed to prepare students for industry, agriculture, commerce, home economics which is usually provided at the senior secondary or lower tertiary level. According to Federal Republic of Nigeria (FRN) (2004), the National Policy on Education (NPE), technical education is an aspect of education that leads to the acquisition of practical and applied skills as

well as the basic scientific knowledge. In this sense, it forms a practical segment of education that involves skills acquisition. Therefore, technical education is a subject of vocational education.

Similarly, vocational education can also be seen as the education designed to prepare individuals for gainful employment as semi-skilled or skilled worker or technicians or sub-professional in recognized occupations and in new and emerging occupations or to prepare individual for enrolment in advanced technical and vocational programmes.

Technical education is considered as one of the most effective means of bringing about technological change that would ensure accelerated technological development of any nation. There is therefore a need for qualitative teaching and learning facilities in Universities and Colleges of Education (Technical) for effective training to produce graduates that can perform competently in their chosen vocation without a need for pre-employment training. This condition can be achieved through a curriculum that is relevant, comprehensive, and has well equipped workshop with relevant training facilities and personnel's. Uzoagulu (1992) warned that where facilities, equipment and tools are not adequate for use by the teeming number of Technical and Vocational Education (TVE) students, acquisition of skills in technical training programs will

suffer and will lead to the production of unskilled personnel who are unemployable and unproductive. Therefore, inadequate workshop facilities in TVE institutions deter skill acquisition. The goal of developing the educational system is to provide conducive environment capable of imparting skills necessary to exploit it to the fullest and this can achieved through good utilization of natural resources of the country which makes it imperative for facilities to be available in Universities, Polytechnics and Colleges of Education. The acquisition of practical skills relating to occupations as part of the 2008 National Commission for Colleges of Education's objectives require that technical teachers should be provided with intellectual and professional background adequate for teaching technical trades in technical colleges. In order to achieve this, technical institutions are expected to focus on workshop practices in addition to their classroom lectures with adequate practical demonstration which is generally considered to be the key for concrete learning. Hallack (1990) stressed that the availability, relevance and adequacy of these facilities promote academic achievement in the school system; which of course results in the production of quality graduates. According to Muthamia (2009), teachers can only be effective and productive in their work if they have adequate and relevant teaching and learning facilities. There are several problems facing vocational and technical education and these include: inadequate quantities of equipment,

machines, tools and instructional materials (Osuala, 2004). Ike, Nwamuo, and Ojukwu (2011) pointed out that there is the need for adequate facilities in school workshops. They suggested that the only way of determining the level of facilities in the workshop is to check the tools, machines and materials available in the workshop. They also emphasized that sustainable technological development cannot be achieved if school workshops are in the mist of inadequate facilities.

The Federal Republic of Nigeria (FRN, 2004) in its National Policy on Education affirmed under "the Philosophy of Nigeria education that educational and training facilities will be multiplied and made more accessible, to afford the individual a far more efficient and flexible choice. Graduates of Technical Colleges according to Nigerian National Policy on Education (2004) are expected to possess skills in mechanics work, and auto electrical work, auto-body repair and spray painting, part-machining, mechanical engineering craft practice, welding and fabrication, instrument mechanics work, electrical installation and maintenance work, radio television and electrical work, air conditioning and refrigeration, engineering craft practice, foundry craft practice, block laying, bricklaying and concrete work, painting and decorating, plumbing and pipe fitting, carpentry and joinery, furniture making and upholstery, automobile engineering practice.

In most of our Universities of education today, there are no enough equipment and materials neither for teachers to conduct practical activities nor for students to carry out investigative activities or practical work on their own in order to discover things and improve their practical skills. Adequacy of Workshop and training facilities cover wide variety of issues such as programmes, facilities, workshop floor area, storage facilities, lighting, ventilation, machines and heating system. This must be provided because functional facilities enhance quality learning.

Statement of Problem

The increasing dearth of skilled artisans in different fields of technology is becoming worrisome issue today. As reported by the then minister of education that, “the country is now at the point of importing foreign labour from all over the world due to lack of competent Nigerians with adequate skills to carter for the demands of the economy and the labour market, such as good artisans” (Vanguard Newspapers, 2009). The shabby performance of technical education graduates in the Nigeria labour market and production force is no longer news as very important projects in the country, particularly, the construction industries are now run by technicians and craftsmen from neighbouring West African countries (Nwolu-Elechi, 2013). Lack of these skills is

frustrating to the industrial sector and its effects are equally grave on the society in all spheres of the economy.

A number of researchers have attributed lack of these practical skills to some issues of constraints in the technical colleges, institutes and universities. In this context, Oluwatumbi (2015) asserted that it is appalling that many students graduate yearly from technical colleges without acquiring relevant practical skills due to some constraints in the technical colleges. This could also be the case with technical education graduates from Universities in Edo state of Nigeria. It is against this background that the researcher sought to investigate the constraints to industrial technical education graduates employability status after graduation in relation to the influence of skills acquired in the technical education workshops in Universities in Nigeria.

Purpose of the Study

The main purpose of this study is to determine the constraint to the employability of Industrial Technical Education graduates in universities in Nigeria.

1. Determine the adequacy of workshop spaces for Industrial technical education students in Universities in Edo state.

2. Determine the adequacy of handtools, equipments, machinery and materials in workshops for training Industrial Technical Education graduates in universities in Edo state.

3. Determine the adequacy of trainers and instructors in workshops for the training of Industrial Technical education graduates in Universities in Edo state.

Research Questions

The following questions guided the study

1. How adequate is the workshop spaces in training of Industrial Technical education students in Universities in Edo state?

2. How adequate are the instructional facilities in workshops for training of Industrial Technical education students in universities in Edo state?

3. How adequate are the workshop instructors for the training of Industrial Technical education students in universities in Edo State?

Significance of the Study

It is expected that the findings of this study will awaken research interest, awareness and challenges in all the aspects of Technical Education and Training in universities in Edo State in particular and Nigeria in general.

Specifically, this study would be valuable to the stakeholders and policy makers of technical education programmes in the NUC, TVET, and others.

The planners of industrial technical education will be aware of the deficiency and the deplorable state of workshops for the training of technical students. Moreso, the findings will gear industrial funds and intervention in building of workshop spaces, provision of workshop tools and equipments where deficient and upgrade outdated machines for teaching and practice by technical students. The findings will bring about industry and institution partnership to facilitate training of both student and trainers/instructors in the various industry of specialization.

Scope of the Study

The study is aimed at examining the analysis of constraints to the employability of Industrial Technical education university graduates in Nigeria. This study is delimited to obtaining information from the 4001 students and graduates of Industrial Technical education of the department of Vocational and Technical education, University of Benin as an area of coverage. The researcher deliberately chose University of Benin because he feel no research of this nature has been carried out on the topic in this area.

Definition of Terms

Employability: the relative capacity of an individual to achieve meaningful employment given the interaction of personal circumstances and the labour market (Canadian Labour Force Development Board as cited in McQuaid & Lindsay, 2005).

Graduates: Graduates are used in different context to refer to anyone who has successfully completed training in any given field either in education or another programme. In this study, graduates are used to describe the products of Vocational and Technical Education who have effectively undergone four years training in Industrial Technical Education in a university.

CHAPTER TWO

LITERATURE REVIEW

This chapter covers review of literature pertaining to the influence of non functional workshops on the employability of industrial technical education graduates of universities in Edo State. The review will be carried out under the following sub-headings:

- The Concept of Industrial Technical Education
- The Role of Industrial Technical Education
- Funding of Industrial Technical Education
- Status of Industrial Technical Education
- Status of workshop for Industrial Technical Education programme
- Graduate Expectation
- Employability
- Summary of Literature Reviewed

The Concept of Industrial Technical Education

Technical Education which is a subset of vocational education is addressed by the fourth edition of the National Policy on Education (NPE). The ultimate goal of traditional Nigeria education is to produce a man or a woman of character, with the useful skills

appropriate to his or her status in life. With this mantra, there was no question of unemployment in the pre-independence days and where it had existed at all It was very minimal. The relationship that existed between the early education and the culture of the immediate Nigerian was a pragmatic one, that produces functional artisans, craftsmen, and technicians who even though not fully technological oriented were active in the production market and bridge the gap between the expatriates engineers and the Nigerian pool of skilled industrialist.

Meaning of Industrial Technical Education

From the foregoing, it could be observed that the phrase is really a programme which entails acquisition of skills, involves practical exposure leading to gainful employment which could be either self reliant or to seek employment in industries and related sectors of the economy their skills are required.

1. Sidi (2022) defines Industrial Technical education as that type of education which emphasize the technological and engineering aspects of vocational education such as automobile works, building and woodwork, welding and fabrication as well as electrical and electronics in respect to the needs of their unit industries.

2. Technical Education is defined by Audu and Musta'amal (2013) as 'that aspect of education which leads to the acquisition of practical and applied skills that will enable its recipients to secure employment in a particular occupation.' They go on to state that these technical skills cannot be acquired in a vacuum but rather in a well-established and functional workshop with the right tools, equipment, and machines for effective implementation of the program (Audu & Musta'amal, 2013).

3. Ogunmola and Ugiagbe (2003) citing Egwuenu (1995) stressed that "technical education is designed to prepare the learner to enter an occupation requiring technical information and an understanding of the laws of science and technology as applied to modern design production.

4. Encyclopedia Americana (2001) explained that technical education programme prepares students for jobs in the many fields of modern technology. For example, mechanical technical field fall between the levels of the skills of the mechanic and the mechanical engineer. His or her work may involve helping the engineer to design and test new equipment, thus increasing the amount and quality of research which the engineer can accomplish. A technician, though the Craftsman but less than a professional engineer.

5. Oni (2007) described technical education as that type of education which fits the individual for gainful employment in recognized career as semi-skilled workers or technicians or sub-professionals. According to Audu, et al., (2013) any form of education that is geared towards teaching technical skills and attitudes suitable to such skills can be regarded as Technical Education.

The Role of Industrial Technical Education

In the first instance VTE education ought to have been made and referred to as a faculty of Vocational and Technical Education. Thereby making Industrial Technical Education a department. This is because of its large and important nature to the economic development of the country. The course offers a wide array of training to industry ready products with the various sections of its coverage.

The NUC explained that the main goals of Bachelor Degree in Technical Education is to provide adequate technical teachers with high intellectual and professional backgrounds that are adequate and also capable of teaching technical courses. Such skills acquired are expected to make them become suitably adaptable to any changing situation in technological development; not only in Nigeria, but also in other countries or the world.

The government of the Federal Republic of Nigeria identified the following as the aims and objectives of TVET (National Policy on Education; 2004, pp. 30-31):

- i. Provide trained personnel in the applied sciences, technology and business particularly at craft, advanced craft and technical levels;
- ii. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development; and
- iii. Give training and impart the necessary skills to individuals who shall be self-reliant economically.
- iv. According to Ekpenyong (2001), the following are the objectives of VTE education.
- v. To produce graduates who can teach effectively at senior secondary schools and tertiary institution.
- vi. To equip graduate to pursue graduate work in education
- vii. To enable them to fit into administrative cadre in government and institutions of higher learning.
- viii. To produce skilled manpower with a strong background required for self-reliance and self-employment if the need arises.

The researcher sees the following points as the roles of technical education;

- i. To provide seasoned and well trained technical education teachers who can teach effectively at secondary schools, technical colleges, colleges of education, polytechnics and institute of technologys' and also pursue career work in education.
- ii. To provide well trained technicians, craftsmen, and workforce for the various industries and industrial establishments.
- iii. To provide the nation with skilled manpower and who are self reliant economically, through self empowerment in using their knowledge for service for the immediate community where they find themselves.

Nonetheless, education in Nigeria is construed as an instrument “per excellence” for effective national development (NPE, 2004). The NPE has among the objectives set for the Technical institutions to enable their graduates to be immediately employable after undergoing the programme. However, since the inception of the policy, there have been major barriers to effective implementation of the policy ranging from lack of TVET facilities and equipment to a dearth of qualified technical personnel among others (Ammani & Ogunyinka, 2011).

The implication is that the goal of Technical programmes which centre on making their products immediately employable stands defeated; thereby this depicts a miserable future for the achievement of the lofty goals of the National Policy on Education (William, 2014). This can explain why, in spite of the presence of a Technical education programme in universities in Edo state, there is still a high level jobless youth in the streets without any useful impact for themselves in self reliance, non employable as teachers or technician's and so far contribute nothing to national development.

Thus, Technical education programmes today lack the capacity of equipping its graduates with the practical skills required, due to poor and non functional state of it's facilities for effective employment in different trades whether as self employed or in the various industries of their speciality.

Funding of Industrial Technical Education

Funding technical education is very expensive due to the fact that it demands innovative machines which are necessary to the accomplishment of its set goals and objectives (Ziderman, 2003). In recognition of this and the place of TVET in national development and its cost - intensive nature, the Government reiterated its effort to provide funds for the administration of TVE in Nigeria (NPE, 2004).

However, this has not been sufficient as reports shows that funding of TE in different parts of Nigeria has been inadequate. One of the barriers to effective implementation of TVET programmes in Nigeria is the issue of funding from government and donor agencies (Ladipo et al., 2013). A study by the World Bank indicates that most public TVET institutions in Sub Sahara Africa face the challenge of inadequate financing from government, and this impedes on the quality of such programme (Ziderma as cited in Williams, 2014).

Status of Industrial Technical Education

In spite of the rewarding benefits of technical education, it is still misunderstood by most people in society (Akhuemonkhan & Raimi, 2013). Many members of society consider technical education as being a form of education designed for the academically disadvantaged (Ladipo et al., 2013). According to Okolocha (2012) some Nigerians interpret VTE as low quality training appropriate for less fortunate students or second class citizens.

Industrial Technical education which is to be seen as an equity measure. As an antidote to urban – biased elite education, which will promote equity with a rural bias and serve the needs of relatively poor people. More specifically, it is will be an effective answer to rural problems, “to alleviate unemployment; to reorient students” attitude towards rural

society”, to halt urban migration; to transmit skills and attitudes useful in employment; and as an important measure of development for disadvantaged youths in rural and urban areas is more usually portrayed as education for those who are frail academically. Amodu (2011) argues that the deprived status experienced by TVET goes beyond the ordinary society members within the Nigerian populace to policy makers. This status leads to: low general assessment of technical education in the society; gross gender disparity in technical enactment; insufficient human, material and financial resources for TVET institutions.

Since the negative perception of Industrial Technical Education (ITE) in the society and its implication are known, the next section presents the implications regarding the facilities and resources (human, and material resources) which are needed for effective Technical Education training.

Status of Workshop for Industrial Technical Education Programme

According to Idialu (2007), (cited from Williams, 2014) for effective TVET delivery there is a need for adequate provision of facilities in terms of building infrastructure and equipment to ensure quality training in technical education. One of the prerequisites that must be met according to Berhe (2011) (cited from Williams, 2014) is the presence of an

active management, especially human resource management. Individuals need to be managed the same way that materials, equipment and information are managed.

According to Puyate (Umar and Ma'aji, 2010) the present state of facilities in Tertiary institutions offering technical courses is very poor, there is no planned measures of maintenance of the already broken down equipment or means of acquiring new ones, there is hardly or no concern on the part of government, teachers and students for the development of the present state of the facilities. Uzoagulu (1993) affirmed that poor student performance in TVE in Nigeria was as a result of inadequate and non-functional training facilities. Fafunwa (Ogundu, 2009) indicated that what Africa needs today and indeed Nigeria is the problem solving and critical thinking approach that can be developed with the use of functional equipment in the workshop.

Abassah (2011) who contends that a good number of Technical Colleges experience inadequacy in terms of workshops, even when teachers are ready to carry out their primary responsibilities. This is the same fate be-devilling the students in Universities undergoing technical education courses. He further submits that the challenges of not having technical equipment in some Technical Colleges is due to the lack of workshop space to install them when supplied. According to Afeti (2009), if TVET must yield its

intended objectives, there is need for adequate provision of training facilities and appropriate workshop equipment that guarantees quality training in TVET such institutions.

The school workshops offer chances for practical training of students in the acquisition of skills in different trade areas of their choice. The different trade areas are synonymous with their respective workshops. Such workshops in Industrial technical education include;

- i. Automobile Technology workshop
- ii. Building and woodwork Technology workshop
- iii. Electrical and Electronics Technology workshop
- iv. Metalwork (welding and fabrication) Technology workshop

Without functional workshop, provided with tools and equipment, the technical lecturer is handicapped and cannot go far in the use of demonstration method in his teaching. Industrial technical education has theory limit, if the teaching and learning exceed that limit, acquisition of skill is hampered and technical education will become “theoretical education”. Dasmani (2012) carried out a study on the challenges facing technical institute graduates in practical skills acquisition the study revealed that non - functional workshops, insufficient training facilities, lack of collaboration with the local industries

for hands-on-experience for both trainers and trainees among others lead to ineffective and inefficient training of students while undue emphasis is placed on passing examination. It is not surprising therefore, that Ibehim (1994) lamented that graduates of TVE programs were being rejected by industries because they had the wrong kind of training in schools. The wrong kind of training implies that TVE graduates were sufficiently deficient in practicum hence were unable to satisfy the industrial demands. The poor and inadequate preparation of the technical student for the labor market will be an impedance to optimal performance in a work situation for the graduates. The various institutions are portrayed with bad image, and will continue to produce graduates with lower employability in the workforce. The major constraints to the employability of ITE graduates in Nigeria, is the problem of inadequate and non-functional workshop facilities which includes workshop tools, equipment and trainers. In line with the foregoing, Uzoagulu (1993) discovered that students were compelled to carry out practice exercise in groups due to lack of adequate tools and equipment. It was equally found out that the few tools and equipment available were seldom functional. There is shortage of facilities and consumables with which to carry out effective practical work in the schools workshop. Hence, universities in Nigeria are bound to produce inadequately prepared skilled graduates in ITE who are employable.

In ITE program the use of workshop, tools, equipment and machines are essentials requirement for the smooth running of the program in order to deliver the needed skills for self reliance and employment. Ayua (2006) in a study on consolidating and sustaining industrial performance of school product in TVE for national development revealed some findings on the availability of teaching equipment and material resources thus; there were no standard workshops with adequate facilities for carpentry and joinery in four out of five technical colleges under the study. Audu (2013) affirmed that TVET educators decry the poor state of workshops and workshop equipment within TVET institutions in the country. Where present, the equipment in the workshops and laboratories is often outdated, having little resemblance to the sophisticated technologies currently used by industry. Insufficient training equipment leads to trainee overcrowding during practical demonstrations, with most of the students only watching the demonstration and not having the opportunity to get some hands-on practice (NICHE, 2010). Due to the fact that the institutions are inadequately resourced, the education and training remain theoretical and the graduates are not considered more skilled than their academic counterparts by the labor market. Uzoagulu (1993) asserted that where equipment and tools are not functional or adequately provided, technical training programs will suffer and will lead to the production of highly unskilled personnel who are unemployable and unproductive.

Most of these equipment and machines are powered by electricity; therefore, electricity has to be available on continuous bases. However, Okala (2005) noted the epileptic nature of electric power supply in Nigeria and therefore recommended alternative sources of electricity in the workshop. Okala further highlighted the high cost of running a stand-by generator and recommended that government should take up the issue of electric power supply seriously if the machines and equipment in the schools workshop are to be put into good use and to justify the huge millions of Naira expended on them.

There is need for well-equipped functional workshops with adequate facilities to provide the required training and impart the necessary skills leading to the production of technical trade teachers and other skilled personnel who will be enterprising, self-reliant and employable on the industries. Availability of appropriate workshop facilities enhances student learning by allowing them to be involved in demonstrations, and practice which will help them to continue to build their skills.

Graduate Expectation.

The fresh technical education graduate leaves school with high spirit that their certificate is a fast ticket for engagement in the world of work. This may not be unconnected with high earnings within some particular sectors of the economy as Williams (2014) ascerted.

He continued that a great number of graduates leave with the intention that when they get employed they will be highly placed and are entitled to huge remuneration. Consequent upon this fact, the universities must share some of the blame for communicating to their products that their degree is their right high-level job security (Currant & Mitton, 2000). In agreement with this, Pop and Barkhuizen (2010) also remarked that the demand of graduates are sometimes high, as they have the assumptions that their qualification is the access they need to earn fat salaries, and have good job placement. Having knowledge of one's career goals encourages energetic behaviours that boost the improvement of one's physical and emotional welfare as well as an enthusiastic attitude towards oneself and life in general (Coetzee & Esterhuizen, 2010). Tomolison (2007) remarked that the lack of awareness amongst school graduates causes a loss of focus thereby leaving most graduates to manage their employability which most times results in unemployment for those who may not cope with the competitive nature of the industries they are trained for or establishing themselves independently in a manner that suits their training.

The reality on ground is that white collar jobs are scarce and highly competitive for those in technical and technology sector since the best of hands and experienced graduates are absorbed in the yet scarce industries and establishments. According to Pool and Sewell (2007), self-awareness should be created in graduates to enable them reflect on the things

they enjoy doing and are interested in; things that motivate them and that suit their personalities and career interests. So, it is important for graduate before completion of their programmes to engage in in-house training, internship, industrial training and be motivated intrinsically to work in functional workshops and acquaint themselves with the relevant equipments, tools, facilities not at their disposal in their workshops in the course of their training in school so as to meet up with the demands of their competitors in other engineering related fields. And be curious about what the programme have in store for them. According to Williams (2014), They also need to be availed of an insight into the labour markets to see what opportunities are available to them, how to present themselves effectively to prospective employers and how to make considered decisions about their careers. Familiarization and contact with standard workshops in industrial arenas will prepare them for the world of work.

Employability

Yorke and Knight (2006) defined employability as a set of achievements – skills, understanding and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations. According to Williams (2014), employability refers to a category of skills which is demanded from an individual to effectively participate in the current world. Employability has its bearing on both those

engaged with any kind of job to those that need an improvement in their jobs. According to Rees, Forbes and Keble (2006) these skills and other related attributes that enriches a person's employability are in most cases those which form the foundation of learning and application of subject area.

In this study, employability refers to the set of skills, competency and attributes which the learner has acquired in a functional workshop and experience garnered that increase school leaver's chances of obtaining initial worthwhile employment, maintaining and progressing in the employment, obtaining new employment if required, and setting up micro and mini businesses of their choice in the areas of their study. Employability according to Harvey (2003) is all about learning and the emphasis is less on "employ" and more on "ability". Harvey further notes that employability is beyond getting a job, developing the attributes or experience just to enable a student secure a job, or progress within the current career.

Many concerned parties have continued to marvel on the increasing number of unemployed technical education graduates among the pool of fresh graduates of given these vast of skills they are supposed to possess through their training and exposure. It is not enough to equip them with the theoretical knowledge and leave the practical aspect

which is suppose to empower and make them self reliant and employers of labour's themselves due to the set of skills and abilities they are perceived to possess on completion of their programmes. It is in this light Harvey (2003) ascerts that "the implication is that more emphasis should be laid on developing critical, reflective abilities, with the understanding of endowing and enriching the student" in the School workshop.

An overview of the review on studies conducted show that in one way or the other, technical education graduates are deficient in some skills and experience due to exposure needed for their employability because of the influence of non - functional workshops. In other words, universities seems not to be preparing these graduates properly for employment as there is existence of a gap in skills acquired in theory and skills required on practice. More so, there were very few studies conducted on constraints to the employability of Industrial Technical education graduates in Nigeria. This appears to be a major gap which this study intends to address.

Summary of Reviewed Literature

So far, the author has presented the concept of industrial technical education, its definition, roles, funding, status, its facilities and the dilemma of workshops for industrial technical education. Also, the concept of employability, and its relationship with

graduates expectation, were also discussed paying attention to the influence of non-functional workshops in universities.

The study has exposed the determinant that impinge the employability of industrial technical education student graduate as a result of the non-functionality of their various workshops. Such factors includes inadequacy of workshop spaces, hand tools, equipment, machineries and materials as well as the inadequacy of instructors and trainers in workshops for industrial technical education students in the course of their programmes.

It is my observation that failure to provide proper budgeting, funds, provision of standard facilities, skilled man power will result in non-functional workshops for industrial technical education programmes.

Generally, the employability of industrial technical education graduates as presented by the review of various scholars both locally and globally is poor and appalling and seeks fast remedy from the various stakeholders in the planning of industrial technical education programmes.

CHAPTER THREE

METHODOLOGY

This chapter deals with the procedure used for this study and is presented under the follow sub-headings:

- Design of the Study
- Population of the Study
- Sample and Sampling Technique
- Instrumentation
- Validity of the Instrument
- Reliability of the Instrument
- Method of Data Collection
- Method of Data Analysis

Design of the Study

The descriptive survey research design will be used for this study. A descriptive survey research is a purposive process of gathering, analyzing, classifying, and tabulating data about prevailing conditions, practices, processes, trends and cause effect relationships and then making adequate and accurate interpretation about such data. Descriptive survey

research engages the people who are the center of the research objective. This design gives that accurate assessment of the characteristics of whole population of the study.

Population of the Study

The population of the study consist of 2019/2020 graduates of industrial technical education, and 2020/2021 graduating class of industrial technical education both from the university of Benin. This summed up to be a total of 66 students. The breakdown of the population is as follows:

Table 1: Demographic Data

S/N	2019/2020	2020/2021	TOTAL
INSTITUTI ON	GRADUAT E	GRADUA TE	
1. University of Benin (UNIBEN)	28	38	66

Source: Department of Vocational and Technical Education UNIBEN.

Sample and Sampling Technique

For the purpose of this study, the entire population was sampled since the size of the population was manageable. The total population sampling is a type of purposive sampling technique that involves examining the entire population that have a set of uncommon characteristics and have a relatively small size.

Instrumentation

A questionnaire will be used for data collection in this study which was titled; A questionnaire on the analysis of constraints to the employability of industrial technical education university graduate (QACEITEUG). The researcher used structured questions, whereby respondents will tick on the available options of strongly agree (SA), agree (A), disagree (D), strongly disagree (SD) that best expresses their opinions. The questionnaire is divided into 2 (two) sections; Section A (Demographic Data) and Section B (Survey Statements), which consist of 20 (twenty) items that addressed the 3 (Three) research questions raised, and with a rating scale of four options as follows; Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

Validity of the Instrument

To ensure that the questionnaire was valid, it was subjected to validity test by the researcher's supervisor and two other experts in the department of Vocational and Technical Education (Technical Education), University of Benin, Benin City. The corrections and suggestions were incorporated into the final instrument.

Reliability of the Instrument

The reliability of the instrument was determined by administering drafted copies of the instrument once to twenty five (25) students of Industrial Technical Education

programme, final year class of the University of Benin. Their responses were subjected to reliability test using Cronbach alpha and the reliability co-efficient of 0.74 was obtained.

Method of data collection

The researcher with the help of a colleague utilized the face to face method of data collection. After the questionnaires were administered and filled accordingly by the respondents, they were collected immediately to avoid low return rate.

Method of data analysis

The data obtained through the instrument used from the survey was quantitatively analyzed through descriptive statistics, in form of mean (\bar{x}), standard deviation, and percentage.

Percentage was used to calculate the demographic data, while the mean and standard deviation were used to answer the research questions. The decision rule was based on the calculated mean which when equal or greater than 2.50 was regarded as strongly agree while any mean less than 2.50 was regarded as strongly disagree.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter deals with presentation of results and discussion of findings.

Presentation of Results

The results show the analysis of the demographic data and the analysis of the research questions that guided the study were answered

Demographic Data Analysis

Table 2: Distribution of Respondents by Gender

VARIABLE	FREQUENCY	PERCENTAGE (%)
MALE	55	83.33
FEMALE	9	16.67
TOTAL	66	100

Source: Field work 2022

Table 2 above shows the gender distribution of the respondents. The male respondents were 55, while female were 9. Using simple percentage, 83.33% of the respondents are male while the remaining 16.67% of the respondents are female. This indicates that the number of male respondents were more than the female respondents.

Table 3: Distribution of Respondents by Subject Area

VARIABLE	FREQUENCY	PERCENTAGE(%)
AUTOMOBILE TECHNOLOGY	16	24.24
ELECTRICAL/ELECTRONICS TECHNOLOGY	33	50
BUILDING/WOODWORK TECHNOLOGY	15	22.73
METAL WORKS TECHNOLOGY	2	3.03
TOTAL	66	100

Source: Field work 2022

Table 3 shows the subject area distribution of the respondents. It indicates that Automobile technology has 16 respondents, building/woodwork technology with 15 respondents, and metal works technology with 2 respondents, thereby making up 24.24%, 22.73% and 3.03% respectively of the entire sample. Electrical/electronic technology forms the major total number of respondents comprising of 33 respondents and having 50% of the sample respondents.

Answers to the Research Questions

Data collected to answer the research question was answered using mean and standard deviation. The result was shown in Table 4-6.

Research Question 1

How adequate is the workshop spaces in the training of Industrial Technical education students in universities in Nigeria?

Table 4: Mean and standard deviation showing how adequate is the workshop spaces in the training of Industrial Technical education students in universities in Nigeria

S/N	Items	N	Mean	SD	Remarks
1	There is adequate floor space in electrical/electronic workshop.	66	2.27	.553	Disagreed
2	There is adequate floor space in automobile workshop.	66	2.69	.621	Agreed
3	The floor space in building/woodwork workshop is adequate.	66	2.28	.505	Disagreed
4	There is adequate floor space in metalwork workshop.	66	2.59	.618	Agreed
5	There is enough space for instructors.	66	2.66	.620	Agreed
6	The bench-work space for practical is just adequate	66	2.37	1.242	Disagreed
7	Spaces for supplies, equipment, and consumable materials are available.	66	2.37	1.242	Disagreed
8	The spaces for stationary machinery and equipment are adequate.	66	2.04	1.047	Disagreed
9	Adequate auxiliary space is available.	66	2.43	1.251	Disagreed
10	There is adequate office space in the workshop.	66	2.31	1.233	Disagreed
	XG		2.40		
	Cluster				Disagreed

Note: SD (Standard Deviation), N (Sample Size), XG (Grand Mean)

Results presented in Table 4 shows that industrial technical workshops have adequate floor space in only Automobile workshop and metalwork workshop with mean

rating of 2.69 and 2.59 respectively. The university have inadequate workshop space for electrical electronics, building and woodwork, wood work, materials and supplies, bench work and auxiliary with mean rating ranged between 2.04 - 2.43 respectively. The grand mean rating of 2.40 explains that that there are inadequate workshop space for training industrial technical education students in universities in Nigeria because it is below the decision point of 2.50

Research Question 2

How adequate is the instructional facilities in workshops for training of Industrial Technical education students in universities in Nigeria?

Table 5: Mean and standard deviation showing how adequate is the instructional facilities in workshops for training of Industrial Technical education students in universities in Nigeria

S/N	Item	N	Mean	SD	Remarks
1	Hand tools for practice are adequately available in the workshops.	66	2.41	1.261	Disagreed
2	There is adequate equipment in the workshops.	66	2.44	1.284	Disagreed
3	We have adequate machinery for training in the workshop.	66	2.46	1.198	Disagreed
4	There is adequate computer assisted instruction facilities for training of ITE students in the workshop.	66	1.88	1.037	Disagreed
5	There is adequate work bench in the workshop.	66	1.98	1.146	Disagreed
	XG		2.23		
	Cluster				Disagreed

Note: SD (Standard Deviation), N (Sample Size)

The data analysis presented in Table 5 depicted that the respondents' rated item one to five as disagreed with a mean rating ranging from 1.88 to 2.46 while the standard deviation also ranges from 1.037 to 1.284. With these results above, the grand mean rating of 2.23 shows that there are inadequate instructional facilities in workshops for training of industrial technical education students in universities in Nigeria.

Research Question 3

How adequate are the workshop instructors for the training of Industrial Technical education students in universities in Nigeria?

Table 6: Mean and standard deviation showing adequacy of the workshop instructors for the training of Industrial Technical education students in universities in Nigeria?

S/N	Item	N	Mean	SD	Remarks
1	There are good instructors in automobile workshop for training automobile technology students.	66	3.17	.667	Agreed
2	There are adequate instructors in electrical/electronic workshop for training of electrical/electronic technology students	66	1.98	1.146	Disagreed
3	We have adequate instructors in woodwork/building workshop	66	1.88	1.037	Disagreed
4	Adequate instructors are available in metal work workshop.	66	1.75	1.190	Disagreed
5	Adequate lecturers for teaching industrial technical education courses are readily available.	66	1.94	.993	Disagreed
			2.14		
	XG Cluster				Disagreed

Note: SD (Standard Deviation), N (Sample Size)

Research question three depicted that the respondents rated item two, three and five as disagreed with a mean rating ranging from 1.75 to 1.98 while item one was rated as agreed with a mean of 3.17. The standard deviation also ranges from .667 to 1.190. With these results above, the grand mean rating of 2.14 shows that the workshop instructors are inadequate for the training of industrial technical education students in universities in Nigeria.

Discussion of Findings

The findings of this study is been discussed as follows;

The findings of research question one revealed that workshop spaces in the training of industrial technical education students in universities in Nigeria required for effective acquisition of skill were inadequate, and students carry out practical activities at an in-inconvenient space. This findings corroborate with that of Puyate (2007) who observed that in some schools, workshop equipment items are not spaced enough to accommodate students and hence the students are either overcrowd together or have to be outside the workshop during practical work and this resulted to lack of acquisition of skills.

Research question two findings indicated that instructional materials (hand tools, equipment and machines) for training industrial technical students in universities in Nigeria were inadequate. This finding further revealed that, practical class could not be carried out, done adequately and demonstrated as a result of shortage in supply of hand tools, equipment and machines, which affect the practical skills acquisition of the students. This finding is in line with that of Oghuvbu, (2009) who submitted that the quality of education and learning achievement of students depends on the facilities available in schools. Hence, the availability or non-availability of instructional facilities (hand tools, equipment and machines) in universities affects the academic performance of students and the employability by the labour market.

The data output of research question three showed that workshop instructors for the training of Industrial Technical education students in universities in Nigeria were inadequate. This finding support that of Dasmani (2012) who asserted that part of constraints to employability of technical institute graduates is lack of collaboration with the local industries for hands-on-experience for both workshop trainers and trainees among others.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

This chapter entails the summary of the study, the conclusion, and the recommendations based on the findings.

Summary

This study analyzed the constraints to the employability of industrial technical education graduates of universities in Nigeria. Three research questions were raised to guide the study. In order to have a wide view in this research work, the researcher consulted several literatures that were relevant to this topic. Descriptive survey research design was used for this study. The population of this study was made up of 66 graduates of the 2019/2020 and 2020/2021 session from University of Benin, Benin city, Edo state. The total 66 graduates were purposively sampled. The instrument used for the study was structured questionnaire. The questionnaire was titled “Analysis of Constraints to the Employability of Industrial Technical Education University Graduate” (QACEITEUG). The instrument was face validated by the researcher’s supervisor and two other experts in the Department of Vocational and Technical Education. The reliability was determined by administering the instrument to 25 graduates of industrial technical education from the University of Benin, and subjected to Croncbach Alpha formula. An alpha value of 0.74

was obtained. The data collected were analyzed using simple percentage, mean (\bar{x}) and standard deviation. The major findings of the study were as follows:

1. That there is inadequate workshop spaces for training industrial technical education students in universities in Nigeria.
2. That there are inadequate instructional facilities in workshops for training of industrial technical education students in universities in Nigeria.
3. That the workshop instructors are inadequate for the training of industrial technical education students in universities in Nigeria.

Conclusion

Based on the findings of the study, it was concluded that there is inadequacy of workshop space areas. The study also shows that instructional facilities inclusive of hand tools, equipment and machines that will improve the experience and hands-on training of the graduates and thereby bridge the gap between theories and practical are scanty, dilapidated, lacking, outdated, non functional and inadequate. Also the instructors, lecturers and trainers are not enough to teach, guide and supervise the available students. The ratio of specialized instructors to students is low. The researcher would therefore conclude that facility and human manpower factors are constraints to graduates employability.

Recommendations

The following recommendations were made:

1. The government and relevant stakeholders, (both private and communal) in education should provide adequate workshop spaces, and facilities, train and employ technical instructors for the Departments of vocational and technical education in universities in Nigeria to meet the challenges of the new world order in our industries and skill demands.
2. The available workshop spaces & facilities maintenance, improvement should not be limited to government alone, instructors, workshop attendance, and the school departmental managers should take good care of the facilities.
3. National Universities Commission (NUC) in charge of evaluating universities in Nigeria should take issue of facility very serious in technical education, if not the objectives of the programme will not be achieved.
4. The relevant authorities should create an avenue for uninterrupted power supply. This is very important since, a lot of equipments, machines and power tools require electricity for constant and effective usage in the universities.
5. In service training programmes such as on the job training and retraining programmes, seminars and workshops should be organized for instructors in

technical education courses in universities regularly in order to help them learn and update the existing knowledge and skills they possess.

Suggestion for Further Studies

For further investigation, the researcher suggested:

1. Influence of Workshop Facilities in Technical Skills Acquisition in Industrial Technical Education Programmes
2. Assessment of Students Perception, Availability and Utilization of workshop facilities in Industrial Technical Education Programmes in Tertiary Institutions in Edo state.
3. Influence of workshop facilities in the teaching and learning of Industrial Technical Education.

REFERENCE

- Aguisibo, B.C., (1998.). Laboratory and Resources Utilization: Funding by Integrated Science Teachers. *Afr. J. Educ.*, 1:29-36.
- Arowolo, K. M (2003). Strategies for effective Skill acquisition in Technology Education. A Paper Presented at the Technology Panel Workshop 8th-9th April 2003. At Government Secondary School Umuahia.
- Beynon. T. (1997). Study carrels. Design for Independent Study Space and Management of Educational Buildings and Furniture in Europe and North America. *Educational Buildings and Facilities Laboratories*.
- Dasmani, A. (2011). Challenges Facing Technical Institute Graduate in Practical Skills Acquisition in the Upper East Region of Ghana. *Asia-Pacific Journal of Cooperative Education*: 12 (2),67-77.
- Hallack, U. (1990). *Fundamental of Educational Planning-57*. Executive Summary: What planners need to know Paris; UNESCO/HEP Publications http://www.schoolfunding.info/policy/facilities/ACLUfacilities_report1-04.pdf
- Industrial Training Fund (I.T.F.) (2007), students' industrial work experience scheme (SIWES): Students guideline. Lagos: NERDC
- Moja, T. (2000). Nigeria education sector analysis: An analytical synthesis of performance and issues. Document produced for the World Bank
- National Commission for Colleges of Education (2008). Minimum standard for Nigeria Certificate in Education-Vocational and Technical Education, National Commission for Colleges of Education (NCCE), 85-114.
- NICHE-Netherlands Organization for International Cooperation in Higher Education. (2010). *Strategy on Technical Vocational Education and Training*. Amsterdam: Netherland Organization for International Cooperation in Higher Education.

- Oghuvbu, E.P. (2009). Analysis of resources management in primary schools in Delta state, Nigeria. *Academic leadership Journal*, 7(1). Retrieved on 25th September 2011, from <http://www.aljrss>.
- Ogundu, I. (2009) Inadequate Supply of Equipment in the workshop; A Real Threat to Skills Acquisition in Nigeria. *Journal of Vocational Education and Technology*: 6(1&2), 99-106
- Oryem – Origa, S. O. (2005). Vocational Education and manpower Development, Lagos: Nigerian vocational monograph series.
- Owoeye, J. S. & Yara, P. O. (2011). School facilities and students' academic achievement of secondary of secondary school agricultural science in Ekiti state, Nigeria. *Asian Social Science*, 7(7), 64-74.
- Puyate, S. T. (2007). Facilities planning in industrial education. Unpublished Monograph Faculty of Technical and Science Education. RSUST, Port Harcourt. p 18-25
- UCSC Physical Plant, (2004). Frequently Asked Questions. University of California. Available: <http://ucscplant.ucsc.edu/ucscplant/index.jsp?page=FAQ#faq11>.
- Uzoagulu, A. E. (1993). Towards an Effective Equipment Management (EEM) in Schools for economic and Technological self-reliance, A paper presented at the 7th annual conference of NVA held at FCE (T), Umunze. November 25th– 28th.
- Yoloye.E.A. (1989) "Laboratories, Workshops and oilier special rooms" Resources for Science, Mathematics and Technical Education in Nigerian Secondary Schools. A National Survey (ed) Yolove.E.A. April 1989.

APPENDIX

A QUESTIONNAIRE ON THE ANALYSIS OF CONSTRAINTS TO THE EMPLOYABILITY OF INDUSTRIAL TECHNICAL EDUCATION UNIVERSITY GRADUATES IN NIGERIA

The purpose of this survey is analyzing the constraints to the employability of Industrial Technical Education university graduates in Nigeria tertiary institutions. Your response will be treated with utmost confidentiality and used only for academic purpose.

SECTION A

Demographic information of the respondents

Gender: Male () Female ()

Subject Area: Automobile () Building () Electrical () Metal work ()

SECTION B:

Kindly indicate the rate to which you agree with or disagree with these statements by ticking either of these options;

Strongly Agree (SA)

Agree (A)

Disagree (D)

Strongly Disagree (SD)

S/N	ITEM STATEMENT	SA	A	D	SD
Q1. How adequate is the workshop spaces in the training of Industrial Technical education students in universities in Nigeria?					
		SA	A	D	SD
1.	There is adequate floor space in electrical/electronic workshop.				
2.	There is adequate floor space in automobile workshop.				
3.	The floor space in building/woodwork workshop is adequate.				
4.	There is adequate floor space in metalwork workshop.				
5.	There is enough space for instructors.				
6.	The bench-work space for practical is just adequate.				
7.	Spaces for supplies, equipment, and consumable materials are available.				
8.	The spaces for stationary machinery and equipment are adequate.				
9.	Adequate auxiliary space is available.				
10.	There is adequate office space in the workshop.				
Q2. How adequate is the instructional facilities in workshops for training of Industrial Technical education students in universities in Nigeria?					
		SA	A	D	SD
11.	Hand tools for practice are adequately available in the workshops.				
12.	There is adequate equipment in the workshops.				
13.	We have adequate machinery for training in the workshop.				
14.	There is adequate computer assisted instruction				

	facilities for training of ITE students in the workshop.				
15.	There is adequate work bench in the workshop.				
Q3. How adequate are the workshop instructors for the training of Industrial Technical education students in universities in Nigeria?					
		SA	A	D	SD
16.	There are good instructors in automobile workshop for training automobile technology students.				
17.	There are adequate instructors in electrical/electronic workshop for training of electrical/electronic technology students.				
18.	We have adequate instructors in woodwork/building workshop				
19.	Adequate instructors are available in metal work workshop.				
20.	Adequate lecturers for teaching industrial technical education courses are readily available.				