ANALYSIS OS SKILLS AND COMPETERNCY REQUIRED BY ELECTRICAL TECHNOLOGY STUDENTS IN TECHNICAL COLLEGES FOR SUBSTAINABLE EMPLOMENY IN EDO STATE.

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INDUSTRIAL TECHNICAL EDUCATION

(ELECTRICAL OPTION]

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FACULTY OF EDUCATION, UNIVERSITY OF BENIN,

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JANUARY, 2022

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION, FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN CITY, IN PARTIAL FULFILLMENT OF THE REQUIRMENT FOR THE AWARD OF BACHELOR OF SCIENCE EDUCATION DEGREE (B.SC. ED) IN INDUSTRIAL TECHNICAL EDUCATION

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APPROVAL PAGE

This project having been duly scrutinized, have been approved and accepted as meeting the requirement for the award of Bachelor of Science Education Degree (B.Sc. Ed) in Industrial Technical Education (Electrical Option) in the department of Vocational and Technical Education, Faculty of Education, University of Benin, Benin City, Edo State.

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DR. S.B ABUSOMWAN

[Project Supervisor]

CERTIFICATION

This is to certify that this research work was carried out by Ochonogor Ugo Kelly with Matriculation Number EDU1703830 and it has been read and approved as meeting the requirement of the Department of Vocational and Technical Education, Faculty of Education, University Of Benin.

…… ……

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DEDICATION

This research project work is strictly dedicated to God Almighty for wisdom, direction, grace, infinite mercies, inspiration and divine provision, may His Name alone be praised forever

Amen.

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Abstract

This study was carried out to analyse the skills and competence required by electrical technology students in technical colleges for sustainable employment in Edo State. Specifically, this study seeks ascertain the extent of competency and skills possessed by electrical technology students in technical colleges, to determine the appropriate strategies in promoting the development of competency and skills in electrical technology students in technical colleges for sustainable employment in Edo State, to determine ways of enhancing the employment prospect of electrical technology students in technical colleges. The research design used for this research study was a survey research design. The population for this study consists of four technical colleges in Edo State in the 2020/2021 session. The sample of the study is made all students and teachers in electrical electronics technology of the Benin technical college. The following were the findings of this work The study revealed that the competency of skills as obtained by both graduates and undergraduates of electrical electronics technology in any of the technical colleges in Edo state is not competent, proficient and adequate enough, the study found out that the inadequacy of facilities and obsolete equipment's for teaching and learning of electrical electronics technology in government owned technical and vocational institutions are a result of corruption in the educational system in Nigeria and poor funding, The study also found out that societal view of the course creates inferiority complex on the side of the students. From the findings of this study, the following recommendations are proffered which the researcher thinks will go a long way to improve on the competency and skills of electrical technology students for sustainable employment in Edo State, Nigeria.s

CHAPTER ONE

INTRODUCTION

Background of the Study

Education is a purposeful activity directed achieving certain aims, such as transmitting knowledge or fostering skills and character traits, those aims may include the development of understanding, rationality, kindness and honesty

Vocational technical education is the foundation of the nation's wealth and development. It is a type of education that is meant to produce skilled and technical manpower necessary to restore, revitalize, energize, operate and sustain the national economy and substantially reduce unemployment and create wealth for the electrical graduate (Amadi, Ikedi and Obed 2015), technical and vocational education is a form of education involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to a particular occupation for wealth creation and social life. This specialized education offered in technical institutions is saddled with training of middle level manpower in technical colleges.

Technical colleges in Nigeria are established to produce craftsmen at the craft level and master craftsmen at the advance craft level (FRN 2013). The courses offered at the technical colleges leads to the award of National Technical Certificates (NTC) and Advance National Technical Certificate (ANTC). The curriculum programs of technical colleges according to Federal government of Nigeria (2013) are "grouped into related trades. These include the computer technology, building technology, wood technology, mechanical technology and electrical technology. Electrical technology is one of the vocational education programs taught in technical colleges in Nigeria. the aim of electrical technology is to give training and impact the required skills leading to the production of skilled male and female who will be enterprising and self-reliant and to enable the students have an intelligent understanding of the increasing" and changing complexity of technology (FRN 2014) .This program trains individual in the skill needed for domestic residential wiring. Domestic Wiring is one of the technical college subjects taught in years I, II and III, as stipulated by the National Policy on Education (FRN 2014). Domestic wiring is the assembly of associated electrical equipment and wires in other to fulfill a specific purpose and having certain coordinated characteristics such as Basic Electricity, Similar to technical schools, a technical high school offers a curriculum designed to teach high school students a specific career before they go towards a college education. These schools teach math, science, geography, and other different foundational subjects. Then additionally, they teach how to execute a specific trade.

Benefits typically include helping high school students find, choose, and prepare for a certain career path. It aids their academic journeys while encouraging the students to be more focused on different training programs. It helps them get information on the program of their choice, and from different fields.

These schools frequently offer such training programs in their senior grades and produce students that are equipped with a high-school diploma, and skills & education in fields that make them ready to embark on their career path right after high school.

Different Trades in Technical colleges

- Electrical installation and maintenance
- Culinary arts
- Fashion
- Cosmetology
- Computer technology
- Automotive technology
- Business administration

Domestic Installation, Industrial Installation and Electric motors, Cable jointing, Battery charging and Repairs, winding of electrical machines, Solid State Devices and circuits

and Electrical & Electronics Drawing. The skills in this area includes: Domestic installation, principles of protecting electrical devices & installation and conduit wiring. The aim of domestic wiring according to NBTE (2001) is to provide the trainees with the knowledge and skill to enable him carry out complete electrical installations in electrical and its associated equipment. In extension, the trainee on completion of the program should be able:

1. Understand electrical working diagrams.
2. Know different types of domestic surface wiring.
3. Know different types of domestic conduit wiring.
4. Understand the principles of protecting electrical devices and installation
5. Understand sequence for inspecting and testing domestic installations.
6. Understand the terms used in illumination.
7. Know various types of lamps for illumination.

To achieve this noble objective, there should be functional workshop with well-equipped and adequate tools and equipment and conducive learning colleges which reviewed that many technical colleges have their electrical technology equipment installed but there is no adequate power supply to make use of the machines because of trend, and that a good

number of these equipment have been vandalized, the state of some of the equipment have become deplorable due to lack of maintenance. The tools and equipment being supplied to schools are grossly inadequate. few in number in relation to the students/population while some of the tools and equipment are outdated and awkwardly small in size in comparison to what is obtainable in the world of work (The factories and industries). This makes the teaching and learning of practical aspect of electrical technology very difficult and tedious because it is emphasized that there will be no meaningful electrical technology education if adequate facilities (Physical Facilities), tools, equipment and competent teaching staff are not adequately supplied and utilized for the purpose of teaching" and learning. Also, most technical colleges have the problem of not having functional workshop, consumable materials are not available and there they are available it will be very few that it cannot go around the students. In technical colleges, it is discovered that less practical work is done during the teaching and learning processes in electrical technology for a considerable period of time, the utmost neglect of practical work has led to lack of maintenance of the available hand tools, equipment, machines and keeping them in a bad condition, of course some have one bad but the maintenance is necessary for development of skills.

Skill according to Osinem (2011) is the proficiency displayed by someone in the performance of a given task. In the content of this study, skill is the ability that an individual has acquired that enables him perform a task efficiently such as using electrical hand tools. To effectively use these machines the teacher & students must

possess relevant electrical skills. Electrical skill is often associated with the use of tools, equipment related to work, as well as all technical matters.

The global economy has evolved into a knowledge-based economy, where skills and human resources have become the driving force for innovation, continued growth and corporate competitive advantage. The meaning and the practice of work in the new knowledge-based economy is changing and the need for highly skilled and productive workforce is shaping economies worldwide. To increase their chances of employability, Electrical Technology students need skills that are flexible and relevant to the demands of today's industry. In the past, Electrical Technology Education focused on imparting hard or technical skills, which include technical or administrative procedures related to an organization's core business like machine operation, safety standards and procedures (Coates, 2016). However, increasing industrial complexity has shifted focus to coordination and communication. Beyond job specific competencies, a set of skills which are generic to a cluster of occupations is required for effective participation in the knowledge-based economy. Thus, employers are putting more weight on generic skills (Firth, 2011). Kearns (2015) defines generic skills as key competencies that can be used across a large number of different occupations and they provide a platform for the development of employability skills needed by young people and adults. Generic skills involve little or no interaction with machines, but help individuals maintain positive

social relationships and contribute to the work environment. Key generic skills include communication and interpersonal skills, problem solving skills, using your initiative and being self-motivated, working under pressure and to deadlines, organizational skills, team working, ability to learn and adapt, using mathematical ideas and techniques, using technology, valuing diversity and difference and negotiation skills. These skills are independent of sector, underpin technical skills and draw on personal attributes. However, the extent by which these skills need to be possessed varies from one occupational grouping to another. Technical and Vocational Education and Training (TVET) students are expected to have well developed technical skills as well as generic skills that allows for flexibility, adaptability and ability to work across a range of jobs. Participation in the new knowledge-based economy characterized by dynamic work environments and changing job descriptions require generic skills for adaptability and relevance. TVET system in Nigeria must help students go beyond taking up immediate employment, to having high level of employability that will enable graduates to adapt to the demands of various jobs throughout a lifetime. Brown and Hesketh (2014) define employability as the relative chances of getting and maintaining different kinds of employment. Beyond this definition, employability further entails the capability of an individual to gain and maintain employment. It further shows where one stands relative to others on the job continuum. For individuals, employability depends on their knowledge, skills and abilities. Central to employability is a solid foundation on generic skills. For an individual, employability skills connote the broad range of proficiencies which he or she

needs to secure, keep a job and to progress in a career. But a major concern for graduates is what constitutes employability skills as the skills possessed by graduates seem to be different from what employers are looking for. Employers often outline a set of skills that they want from an employee. These skills are what they believe will equip the employee to carry out their role to the best of their ability. Central to developing employability is skills. Skills act as the interface for the development of technological skills, aiding in the adaptation to new work conditions and development of new skills while on the job

The Federal government of Nigeria in her bid to ensure that more jobs are created and expanded for the youths has been investing heavily in the power sector of the economy. The data released by the National Bureau of Statistics (NBS 2017) indicates that the power generation output in Nigeria attained 7,000 megawatts of electricity for the first time in decades. This was due to the unbundling of the power sector to give room for efficiency and expansion. This has created various vacancies in the various sub-sectors of the electricity supply chain such as generation, transmission, and distribution. Thus, more job opportunities were opened to graduates from tertiary institutions, and especially, Electrical Technology Students. The stability in the power sector has a multiplying effect. It grows the level of foreign direct investment in the economy. This translates to more job opportunities for graduates. For instance, the Federal government through the Minister of Culture and Information announced the creation of 7million jobs in the last three years

(Lai, 2018). Related to this is the improved budgetary allocation for education which has increased from millions of naira to billions since 2011. Specifically, the 56-billion-naira budgetary allocation to education in 2017 increased to 102.9 billion naira in 2018. This has brought about improved government intervention in both facilities and training with the aim of improving outcome which is employability of graduates. This role is effectively being handled by the Tertiary Education Trust Fund (TETFUND). The quality of a school is a function of the employability of its graduates (David Finch; Melanie Peacock; Nadege Levallet; William Foster, 2016). One definitely expects an improved educational outcome in terms of ability to secure jobs based on the available job opportunities in both the public and private sectors of the economy. It is therefore worrisome that the employers of labour continue to lament about the poor quality of graduates which has made them a misfit for the labour market. This has earned them some unprintable names such as half-baked graduates or, graduates who are not graduate (Babatunde Durosinmi-Etti, 2017; Holmes & Holmes, 2015). Ari (2018) notes that the vacancies exists but, the people to fill them are not there. Ari Joseph is the Director General of the Industrial Training Fund (ITF) in Nigeria. There is, therefore, a huge waste of government investment in Technical Education due to the existence of skills mismatch between the school and the workplace (Daihiru Sale Mohammed and Sarimah Ismail, 2014). This is because it has been opined that the jobs are there but the graduates lack the skills to match those jobs (Babatunde Durosinmi-Etti, 2017). The employers expect the graduate to possess other extraneous skills apart from academic qualification

(Dania, Bakar, and Mohamed, 2014; Emmanuel, 2015b). The continuous increase in the rate of youth unemployment reveals that the issue of skills mismatch in Nigeria education system has not been adequately handled particularly, at the College of Education level where many graduates of Electrical Technology are found to be roaming about the streets. The school should be concerned with the process of transition from the school to the workplace (Cai, 2013). Therefore, for the local content policy of the government to materialize and become functional, the school must be alive to its responsibility of developing students to be job-ready and capable of fitting into the employment market. This can only be achieved when we have in place a 21st- International Journal of Entrepreneurial Research 2(3); 14-21 Copyright © 2019 Authors. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. 15 Century employability skills framework that is capable of bridging the skills-gap existing between the school and the labour market most especially for Electrical Technology students that has received considerable attention from the government of Nigeria.

Statement of the Problem

Today's organizations are characterized by changing, dynamic environments in which the need for adaptive workers has become increasingly important (Smith, Ford, & Kozlowski, 2015). Technological industries are continually searching for innovative solutions. They place emphases on employees being able to think analytically, organize and plan effectively, and reflect on outcomes. The ability to find solutions to problems using creativity, reasoning, team work and past experiences are often very valuable. There is widespread concern that schools are failing to impart the kind of skills that employers need, furthermore, that certain skills have grown in importance in the new knowledge-based economy, requiring swift response and sustained attention from educators and administrators to ensure that graduates of Universities maintain employability. There are also concerns raised on the essential skills taught to electrical technology students, how they are embedded in the curriculum and the methods of assessment. Embedding a skill in an activity without explicitly recognizing it may minimize its transfer. Few attempts have been made to ascertain the essential competency and skills taught to electrical technology students in Universities in Edo State, the method of transfer and assessment. Competency and skills are either imparted through training or experiences and interactions (Baher, 2010). However, while these skills are implied by the curriculum, they are not transferred to students using both formal and informal ways. Competency and skills are difficult to measure and the faculty has not considered alternative methods of assessment of the extent of the development of competency and skills. However, there

have been few attempts to investigate the degree of usage of such competency, core skills and other generic skills, nor their association, if any, with labour market rewards (Ali and Frederickson, 2016).

Purpose of the Study

The purpose of this study is to analyze in the skills and competency required by electrical technology students in Technical Colleges for sustainable employment Edo state. Specifically, the objectives were:

1. To ascertain the extent of competency and skills possessed by electrical technology students in Technical Colleges in Edo state.

2. To determine the appropriate strategies in promoting the development of competency and skills in electrical technology students in Technical Colleges for sustainable employment in Edo state.

3. To determine the generic soft skills required by electrical technology students in Technical Colleges for sustainable employment in Edo state.

4. Determine ways of enhancing the employability prospects of electrical technology students in Technical Colleges for sustainable employment in Edo state.

Research Questions

1. Are the level of skill competence acquired by electrical electronics students in technical colleges in Edo state adequate enough?

2. Does the method that shows that skills been obtained by students of electrical electronics in technical colleges in Edo state technical colleges adequate and good instruments that measures the competency of skills in electrical electronics technology?

3. Possible problems facing the competency of electrical electronics students in Edo state Technical colleges by electrical technology students in Technical Colleges in Edo state?

4. Basic skills required by electrical electronics technology students in technical colleges in Edo state?

Significance of the Study

The findings of this study would be of immense importance to the students, governments and employers. The study would reveal to the students the skills demanded by employers that they (the students) are supposed to possess as they prepare for the world of work. The study would also benefit the government at all levels, as it furnishes the government with relevant data and information in their effort in to improve the delivery of certain generic skills lacking in some sections of the workforce. The employers of labour also

stand to gain from the findings of the study as it would further reveal to them the areas of strength and weaknesses of prospective employees. It would further help them in designing training programs to compensate for any perceived weakness in new and prospective employees.

Scope of the Study

This study will be outlining the various skills and competency required by Electrical Technology students in technical colleges in Edo State to acquire sustainable employment.

Definition of Terms

- **Electrical Technology:** Electrical/Electronic technology is an engineering technology field that implements and applies the principles of electrical engineering. Like electrical engineering, E.E.T. deals with the design, application, installation, manufacturing, operation or maintenance of electrical/electronic systems

- **Skills**: The ability to use one's knowledge effectively and readily in execution or performance

- **Competency:** The ability to do something successfully or efficiently with or without supervision

- **Analysis**: Detailed examination of the elements or structure of something

- **Technical Colleges:** A college of further education providing courses in a range of practical subjects, such as information technology, applied sciences, engineering, agriculture and secretarial skills

- **Sustainable Employment:** These are jobs that a stable and enduring

- **Electrical**: It is a fundamental form of energy observation in positive and negative forms that occurs naturally (as in lightning) or is produced (as in generator) and that is expressed in terms of the movement and interaction of electrons which can be regarded as electrical power or current

- **Technology**: The application of scientific knowledge for practical purposes especially in industries and this application of knowledge often leads to inventions of new devices/machines.

CHAPTER TWO

REVIEW IF RELATED LITERATURE

The major focus of this chapter was to review relevant literature relating to the subject under study. The reviewed literature on this research work is carried out under the following headings

- The Concept of Vocational/Technical Education.
- The Concept of Electrical Electronics Technology.
- Level of Skill Competency.
- Instrument and Method and Method
- Problems Facing the Competency of Electrical Students
- Required Skills Needed in Electrical
- State of Competences of Students Studying Electrical Electronics Technology.
- Summary of Review Related Literature

The Concept of Vocation and Technical Education

According to dictionary.com, vocational education is defined as the educational training that provides practical experiences in a particular occupational field. According to wenrick and winrich (2014), vocational and technical education prepares youth and adult for employment in a specific occupation by providing experiences which will enable them to develop competences needed for such employment.

The word vocation according to Longman dictionary of contemporary English (2014) means a job which a person does because he thinks he has specific fitness to Give service to the people.

A few years ago, vocational courses were thought to be for people who did not have the opportunity to study in a college and thus need skills in a particular field to gain employment. The scenario however has changed completely today. These days' people have realized their importance and are opting for such courses both online and offline to gain skills related to a particular field so that their job prospect can be improved.

Most frequently the ministry of education and various authorities pay attention to Universities and polytechnics and never to vocational/technical education the high Deal of respect they well deserved.

Vocational and technical education is not an alternative to formal education. It only discourages uneducated youths from engaging in social vices giving them the opportunity to become self-reliance. State government as well as federal ministry of education should exert more energy towards establishing vocational training centres across the country to make unemployment a thing of the past, thereby paving way for a brighter economy.

The Concept of Vocational Education and Training

These goals function in the definition of competences which must be developed in Vocational education and training,

The first goal, individual vocation adjustment: this denotes the ability of individuals to develop relationship with their environment and to create their educational pathway and life in the society in a responsible and self-directed way. Individual vocational adjustment refers to cross-occupational competences such as self-management skills, problem solving skills, communication skills or metal cognitive skills.

The second goal, safeguarding human resources substances: every aspect of educational system that facilitates individual abilities to act or work and in the labour, (individual economic user perspective) and provides work focus (social demand perspective).

The third goal, warranty of social participation and equal opportunities: these focuses on the relationship between VET and social structures, i.e. to minimize social dependencies between social background and educational life and income opportunities and to enhance social integration and participation of young adults in the process of shaping the social and political community.

The Concept of Electrical and Electronics Technology

Electrical and electronics technology are like other technical courses, for instance in building and woodworks technology whereby the learners could see and feel real objects and materials but in electrical electronics technology is not so. This is because concepts in electrical electronics technology are too abstract that students find it difficult to comprehend and concretize them. Therefore, the teaching and learning of electrical electronics technology must be effective, and that if students are to learn very well, they should be equipped in both practical and theoretical concept. Also, the workshop must be equipped with modern facilities and equipment's that meet the demand of modern-day maintenance, repairs, and assembling

Research has shown that there is acute shortage of tools, instruments, and equipment's in Nigeria technical colleges. The few ones purchased by the Nigerian government in the

early and late era of independences are old and obsolete and are lying fallow in dilapidated workshop buildings scattered across various technical colleges In Nigeria. In fact, electrical and electronics workshop have been turned into mere laboratories, classrooms, staffrooms, and even examination halls (Osuyi 2015).

Students only learn the concept and theories of electrical electronics and less of the maintenance and repairs of electrical machines. Many of these graduates did not have the opportunity to make use of the equipment's and tools for electrical electronics practical when they were in school, they graduated without any practical experience,

cited by audu (2010), in assessment of quantity of man power produced by technical and vocational training institutions revealed that the technical and vocational institutions have not met the needs of the labour market.

The World Bank further asserts that there is a mismatch between the quality of preparedness and the supply of graduates and the needs of the labour market. Also many electrical and electronics teachers seem not to have required competency, in fact they are not competent enough to teach students who are ready to learn electrical electronics. Many of those teachers considered competent enough to teach did not study the course area directly instead they study disciplines related to that of which they teach like physics,

chemistry, mathematics, etc. These categories of teachers do not have any form of training in workshop practice as such they shy away from such practical exercise (uwanmeige 2011).

Level of Skill Competency

Career and technical education is a term associated with schools institutions and programmes that specializes in skilled trades, applied sciences, modern technologies and career preparation it is commonly called vocational education.

Career and technical education programmes frequently offer academia and career-oriented courses and may provide students with opportunity to gain work experience through internship, job shedding, on-the-job training, and industrial certification opportunities.

Career and technical programmes depend on their sizes, configuration, location, administration, provide wide range of learning experiences, spanning many different career trades, fields and industries from skilled trades such as automobile technology, construction, plumbing, or electrical contracting to fields adverse as agriculture, architecture, fashion design, health care, personal training, etc.

Instrument and Method and Method

The teaching process of skills is mainly affective, cognitive, psychomotor skills, (chuckwuedo and omonfwman 2010). But also, skills acquired in any form do not only involve the basic affective, cognitive, and manipulative skills but also adaptive, conceptual, marketable, human, occupation, and transferable processes.

Ogbuanya and oharu (2010), stated that where one process adequate skills in carrying out a task he or she does the work accordingly within the minimum possible time and the work will always attract the attention of people.

The acquisition of skills in electrical electronics technology programme should be supported with highly competent teachers who do not only master the theoretical framework of the field but also the practical background from the basics to complexities of all that is needed to be known in that field of study.

Some of the skills required in electrical electronics technology include; ability to define basic concept in electrical electronics, apply appropriate formulae in electrical electronics calculations, read and interpreted schematics writings in diagrams and on real life, assembling and installing of electrical electronics devices and systems, designing logic circuits, identifying appropriate tools, equipment's, and materials for specific task,

installing satellite dishes, using instruments to measure the numerical values of components like voltage, currents, resistance, inductance, capacitance, etc. detecting of faults with common sense, detecting of faults with appropriate instruments and tools, troubleshooting skills etc. (ogbuanya and charu: 2010, ogbuanya 2019, chizogie 2015, theraja 2019,bassoludo and toby 2014)

Problems Facing the Competency of Electrical Students

- Critical thinking: using logic and reasoning to identify the strengths and weakness of alternative solutions, conclusions, or approaches to problems.
- Reading competition: understand written sentences and paragraph and other work-related document.
- Complex problem solving: identify complex problem and retrieving related
- Information to develop and evaluate options and important solution.
- Active listening: giving attention to what other people are saying, taking time to understand the point being made, asking question at appropriate times and not interpreting it at inappropriate times.
- Monitoring: monitoring /assembling performance of yourself, others, individuals or organization to make improvement or corrective action.
- System analysis; determining how a system should work and how change in condition, operation and the environment will affect outcomes.

- Judgement and decision making: considering the relative cost and benefit of potential action to choose the most appropriate one.
- Quantity control analysis: conducting test, inspecting test results, inspection of products, services or processes to evaluate quality or performance.
- Repairing: repairing machines or systems using the adequate and needed tools.
- Troubleshooting: determining causes of operating errors, and deciding what to do about it.
- Equipment maintenance: performing routine maintenance on equipment's and determining when and what kind of maintenance is needed.
- Operation monitoring: watching gauges, dials, or other indicators, make sure a machine is working perfectly.
- Understanding the implication of new information for both current and future problem solving and decision making
- Speaking: Talking to others to convey information effectively.
- Time management: managing one's own time as the time of others.
- System evaluation: identifying means or indicators of system performance and the actions needed to improve or correct performance relating to the goals of the system.
- Co-ordination: adjusting actions in relation to other actions.

- Writing and communicating effectively in writing as appropriate for the needs of the audience
- Instructing teaching engaging others to learn how to operate, or do something.
- Social perceptiveness: being aware of others, how they feel about certain actions, decisions and their actions to those actions, understanding why they react the way they do.
- Operation and control: controlling operations of equipment or systems. equipment selection: determining the type of equipment required to do a job.
- Service orientation: actively looking for ways to assist and helping people learning strategist: selecting and using training/instrumental methods as procedures appropriate for the situation when learning or teaching a new thing.

Required Skills Needed for Electrical

Electrical and electronics programmes can be achieved in the formal non-formal and informal setting. But these skills are commonly acquired through formal and non-formal education, these skills require through apprentice programmes and thus require more psychomotor and cognitive skills.

Non-formal education is the type of education given to youths and young adults outside the formal school system such as functional remedial and vocational education, FGN (2014).

In this system, electrical electronics skills are learned under a very short term and it's specific. One of such bodies in Nigeria where these skills can be acquired in a competent in Nigeria as a non-formal system of education is the NDE (National Directorate of Employment).

Electrical electronics are equally taught and learnt in formal educational system. This is where emphasis is placed, not only on cognitive but also in psychomotor or affective skills. Here the skills are learnt in a long term and it is also specification.

Though the for formal education is high, the increasing failure of it in terms of practical skills in Nigeria have made members of the public to still rely on skills of the non-formal education system in electrical electronics.

It is to imperative to know that the teaching and learning of psychomotor and affective involves a number of stages which is been stated by chinien (2013), when he adopted five main stages or categories to be adopted, these are;

- Imitation
- Manipulation
- Precision
- Articulation, and
- Articulation

The teaching and learning of affective skills include the following approaches

- Democratic approach
- Indoctrination approach
- Group discussion approach
- Dramatic involvement approach

Electrical electronics technology is one of the core subjects offered by students in technical colleges in Nigeria. Students offering these courses are expected to be grounded in the rudiments of theories and practices of the subject.

The field of electrical electronics deals with electrical current, practical application of atomic reaction with results from specific prospection and behaviour of infinitesimal small charged particles called electrons. It is the art and science of controlling the flow of

electrons to produce useful results. It is also the study electronic device and their utilization (onyehala, 2010).

The field of electrical and electronics device have advanced from the use of analogue systems to a more complex digital system. The scope of study according to okale (2010), include power generation, transmission and maintenance, circuit analysis, networking, and power and generation system, electrical electronics drawing, electrical electronics drafting and interpretation, radio communication, domestic and industrial wiring.

According to FRN (2004), the scope of electrical electronics for technical college students include;

- Electrical installations and maintenance works
- Radio, television and electrical works

This implies that upon completion of course of study in electrical electronics in technical colleges the student academic performance will be determined on the ability to install and maintenance of electrical electronics devices, equipment and appliances. and also their ability to carry out major and minor wiring in industries, homes, workshops, and industrial settings.

The above calls for the competency of these skills, how these skills are acquired, Why they are required and where they are required.

State of Competence of Students Studying Electrical Electronics Technology

It is based on the following questions this study was designed to look into the analysis of skills competencies needed by electrical electronics students in technical colleges in Nigeria especially using those technical colleges in Edo state as area of study. The purpose is not for the above reason only but also on the modern relevance of the acquired skills. One thing for sure is that many people have acquired electrical electronics technology skills. But why are there complains on their skill effectiveness, the quality of service delivery and lack of confidence in the delivery of their skills in professional way,

It is now a known fact that these skills acquired by these students are not competent enough from the following reasons:

- There is less attention by the government of the day to making sure that there are adequate learning facilities especially electrical machines and electronics device to teach the students and train teachers.

- There is inferiority complex in the students in the process of study as they see their peers studying courses that are highly recognized and respected by the society while that of technical colleges relegated to the background.
- Technical Teachers teaching electrical electronics are not adequately trained and many of them do not know how to transfer knowledge of what they know down to their students.
- Training workshops, retreats, and conference on the upgrade of skills and the Introduction of new method of problem solving methods of new skills are no longer organized and if they are, information ids not passed across to them to attend and training fees are too high thus discourages teachers who are willing to attend.
- Government do not subsidise training fee and workshop fees and also they fail to put up fund for training and upgrade of the teachers skills.
- Parents push their children who they considered less intelligent to handle normal school work to technical colleges
- Students don't want to work as professional technicians and technologist because it pays less income and thus sees it as a poor man job

Summary of Review Related Literature

Vocation and technical education programme from the definition and explanations provided by experts is aimed at improving and developing the economy of the nation. Electrical electronics have been seen as a major part of technical education that Specializes in so many skills of including troubleshooting, Installations, and repairs of electrical components

CHAPTER THREE

RESEARCH PROCEERURES AND MEHODLOGY

This chapter describes the procedures and methodology adopted by the researcher in carrying out the research work. The researcher did this under the following subheadings,

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

Research Design

The descriptive survey research design was adopted for this study. According to Omoroguiwa (2017) descriptive survey research design is that design in which a group of people or items are studied by collecting and analysing data from only a few people or items considered to be representative of the entire population. This design is considered

suitable for the study because the researcher will sample the opinion of the population to make generalizations

Population of the Study

The population of the study comprises of Technical Teachers and students of Electrical Electronics Technology in the four technical colleges in Edo state included

- Uromi federal technical college – 970 students
- Afuze government technical college 900 students
- Igarra government technical college – 870 students
- Benin technical college. – 800 students

Sample and Sampling Technique

The researcher decided to use one of the four technical colleges in Edo state. The sample includes all electrical electronics students and teachers. The researcher picks at random a total of one hundred (100) respondents in the Benin Technical College As a sample population, representing 64.10% of the total number of electrical electronics students and teachers in the Benin Technical College which comprises of one hundred and fifty-six (156) students and teachers of electrical electronics technology.

Instrumentation

The research instrument is a structured closed ended questionnaire. The questionnaire is closed ended restricting the respondents to a limited number of answer option. Areas covered by the questionnaire amongst others include; the relevant skills, ethics, rules and principles that must be thought by teachers, students attitude habits, character and behaviour towards learning appropriate skills; quest for competent skills by both students and teachers, curriculum development for the enhancement of the academicals and social position placed on the value scale of these skills, principles involved to making competent and relevant skills available.

A total of one hundred (100) questionnaires were prepared which comprises of twenty-five (25) test questions or items. The questionnaire was made up of two (2) sections, sections A and B. Section A deals with respondents' personal data which comprises of six (6) items, and section B seeks information relevant to the research topic; "analysis of skill competence of electrical electronics students in technical colleges in Edo state." Their respondents were required to answer the question without the influence of their friends and teachers, as their opinion was what matters and their information will be treated with confidentiality.

The twenty-five (25) question items were made to proffer answer to the four (4) research question. Ten (10) out of the twenty-five items was to seek response from the

students and teachers, while the remaining fifteen (15) items took care of the remaining three (3) research question.

The various questions in each of the respondent's question which they are expected to respond to, asked questions relating to the research question. The answer will be collected to get a better solution to the problems which lead to the research question in the first place.

Validity of The Instruments

To ensure validity of the instrument used in this study, the instrument were prepared and then given to experts on the field/discipline on which advice and corrections were given before giving my supervisor to ensure its face and content validity.

Reliability of The Instrument

This is the ability to determine how reliable a research instrument is. To test how reliable the questionnaire used were, split-half method was used, using spearman brown proficiency formulae. A sample of ten (10) students was used, not part of the sample but part of the population. The reliability coefficient was 0.75.

Method of Data Collection

The questionnaire was personally taken to both teachers and students of electrical electronics technology in their technical colleges. The entire questionnaire was administered and retrieved the same day without any loss. The collection of data on questionnaire distributed was personally done to prevent errors of omission or commission.

Method of Data Analysis

The data collected was properly analysed using the mean and standard deviation and a mean score 2.50 was taken as a minimum score and any item within 2.50 and above were accepted and any item that falls below 2.50 were rejected. The mean score was divided by adding the score scale of the questionnaire and dividing by four (4) as represented below.

SA	4
A	3
D	2
SD	1
TOTAL	10

10/4=2.50

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION, ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

In this chapter the result of the study, obtained from analysis of data are presented under the following sections.

1. Demographic information of the participants of the study
2. Answering of research questions.
3. Discussion of findings.

Demographic Information on the Participant of the Study

100 Respondents were selected at random from the sample population of 156 electrical electronic students' teachers making a total population of 64.10 of the sample population these include all electrical electronic technology teachers from VOC 1- VOC 3.

The table below shows the distribution of participants that are used to generate data for the study.

Research Question 1:

Are the Level Of Skill Competence Acquired By Electrical Electronics Students In Technical Colleges in Edo State Adequate Enough?

TABLE 1

SN	ITEM STATEMENTS	SA	A	D	SD	M(X)	REMARKS
1	Skills acquired in electrical electronics 4technology meets up to standard expectations	4	12	20	64	1.56	Disagreed
2	Skills acquired by electrical electronics students in Edo state are the same with that acquired by electrical students in other technical colleges outside the state	0	18	35	47	1.17	Disagreed
3	Proficiency of the skills in electrical electronics technology in technical colleges is high	15	28	25	32	2.46	Disagreed
4	The teachers teaching electrical electronics technology do not have sound proficiency on the subject matter on which they teach	8	41	28	23	2.34	Disagreed

5	Teachers do not know how to teach but know the subject	18	32	35	15	2.53	Agreed
6	The teachers do not really know the subject but knows how to teach	6	16	30	48	1.80	Disagreed
7	The teacher knows the subject and also knows how to teach	35	27	19	19	2.78	Agreed
8	Students understanding of any subject in electrical electronics is based on what is been taught in classroom, school workshop, or based on what he/she learnt outside the school	34	21	43	2	2.91	Agreed
9	Students do not have the opportunity to go to the workshop because there are no functioning equipment's in the workshop	28	32	25	15	2.73	Agreed
10	Students do not go to the electrical electronics workshop because the equipment's are too old and obsolete	3	22	14	61	1.67	Disagreed

From the above table, the results showed that the mean score ranging from 1.56 to 91, the remarks showed that six (6) items disagree that the level of skill competence acquired by electrical electronics in technical colleges is adequate enough. While four (4) items agrees that skill competence acquired by technical college students of electrical electronics is adequate enough.

Research Question II

Does the Methods Used to Show That Skills Been Obtained By Student Of Electrical Electronics In Technical Colleges In Edo State Technical Colleges Adequate And Good Instruments That Measures The Competency Of Skills In Electrical Electronics Technology?

TABLE II

SN	ITEM STATEMENTS	SA	A	D	SD	M(X)	REMARKS
1	The performance of graduates of electrical electronics in Edo state in industry is used to measure the competence of skill of electrical electronics students	47	23	14	16	3.01	Agreed
2	Professional and certificate examinations is a method of measuring the competence of skills in electrical and electronics students	39	22	27	12	2.88	Agreed
3	Ability to secure gainful employment in industry is a means of measuring the competency of skills required by electrical and electronics student	36	18	14	32	2.58	Agreed
4	Tests and terminal examinations are used to be used to measure the	33	41	18	8	2.99	Agreed

	competence of skills in electrical electronics students in technical college in Edo state						
5	Skills from a freed apprentice of a roadside technician when compared with that of an electrical electronics graduate is more competent	11	18	32	39	2.01	Disagreed

From the table above, the results showed that a mean score ranging from 2.01 to 3.01. the findings revealed that one (1) item disagrees that the methods used to show that skills obtained by students of electrical electronics technology are inadequate this means that the competency of skills in electrical electronics, while four (4) Agreed that the method used to show that skills obtained by students of electrical electronics technology are adequate and proficient instruments that measures the competency of skills of electrical electronics in Edo state.

Research Question III

Possible Problems Facing the Competency of Electrical Electronics Students In Edo State Technical Colleges By Electrical Technology Students In Technical Colleges In Edo State?

TABLE III

SN	ITEM STATEMENTS	SA	A	D	SD	M(X)	REMARKS
1	Lack of inadequate training of teachers results in incompetent skills taught to electrical electronics students	34	26	30	10	2.84	Agreed
2	Corruption of top governmental officials, in both the ministry of education and other tiers of government results in poor competence of electrical electronics technology students in Edo state	39	29	8	24	2.91	Agreed
3	Obsolete equipment which are almost useless is a problem facing the competence of skills obtained by electrical electronics students in technical colleges	24	42	18	16	2.74	Agreed
4	Lack of technical knowhow of complex equipment in electrical electronics workshop is a major reason for the incompetency of these students	28	31	27	4	2.62	Agreed

	in Edo state						
5	Students do not respond to lectures and do Agreed not love technical education especially electrical electronics	19	39	27	15	2.62	Agreed

From the above table, the result obtained showed a mean score ranging from 2.62 to 2.91. the findings revealed that the students and teachers agrees that the issues identified as possible problems experienced by them, by the researcher are in fact some of the major problems experienced by all technical colleges in Edo state.

Research Question IV

Basic Skills Required by Electrical Electronics Technology Students in technical Colleges in Edo State?

TABLE IV

SN	ITEM STATEMENTS	SA	A	D	SD	M(X)	REMARKS
1	Troubleshooting of electrical electronics devices is a skill needed in electrical electronics technology	25	21	23	21	2.60	Agreed
2	Electrical installation and wiring is a skill needed in electrical electronics technology	36	24	16	24	2.71	Agreed
3	The knowledge of radio and television is needed in electrical electronics technology	29	29	25	17	2.70	Agreed
4	Advanced skill in electrical electronics is needed like G.S.M repairs	14	38	28	24	2.38	Disagreed
5	The use of ICT is needed in the acquisition of basic skills in electrical	48	26	10	16	3.06	Agreed

electronics technology

From Table 4, the mean score ranges from 2.60 to 3.06. The remarks showed that four (4) items agreed that basics skills are required by electrical electronics students in technical colleges is essential to become a successful electrical electronics technician. While one (1) item disagree with the opinion that basic skills are not required by electrical electronics students in technical colleges in Edo state.

Discussion of Findings

The survey of the study was carried out using the questionnaire as the instrument to investigate skills competence of electrical electronics students in technical colleges in Edo state and after which the statistical result revealed the following as discussed below.

In table one (1) the research question stated as "Are the level of skill competence required by electrical electronics students in technical colleges in Edo state adequate enough?" Here some students disagree which constitute a majority of the Test items in table one. As this was in accordance with Audu (2010) who is of the opinion that "quality of manpower produced by vocational and technical institutions revealed that the technical institution has not meet the need of the labour market." This was further discussed by the researcher as cited from Audu (2010), that I the manpower produced by technical

colleges have not meet the needs of the labour market then there's inadequacy of skills which means the proficiency of skills taught to electrical electronics in technical college is poor. While other items agree that the level or extent of skill competence acquired by electrical electronics students in technical colleges in Edo state is adequate enough to meet up to standard.

Findings from table II indicates that about 80% of the items agrees that the suggested method by the researcher to ascertain whether the methods used to show that skills obtained by electrical electronics students in technical colleges in Edo state is adequate and good instruments that measures the competency of skills in electrical electronics technology in technical colleges in Edo state. While the remaining 20% disagrees with the suggested opinion of the researcher

Table III shows that all the items agree with that the possible problem bedevilling electrical electronics student's competences is a major problem. This is supported by Ehizogie (2015) who opined that the major problem affect the proficiency and competence of skills from technical colleges especially electrical electronics is due to the following reasons; corruption of top governmental officials in charge of governmental institutions like the technical colleges, ministry of education, negative attitude of some parents and students, inferiority complex amongst the students, no social pride of the

students, the society sees their occupation as job for the under privileged or mal-adjusted individuals.

In table IV, revealed that four out of five items agreed that basic skills in electrical electronics technology are essentially needed by the students of electrical electronics technology to make them proficient in many of the basic skills which are the building blocks or foundation that makes a good electrical electronics technician or technologist as a career and occupation. While one item disagrees with the view of the majority test items in table that basic skills in electrical electronics technology is inappropriate, unnecessary, or unessential towards the competence of skills of electrical electronics students in technical colleges in technical college in Edo state.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

The purpose of this study is to investigate and analyse the competency of skills needed by electrical electronics students in technical college in Edo state.

Related literature was reviewed about the topic about the concept of vocational and technical education, the concept of technical education, skills needed in electrical electronics technology, teaching and learning of electrical electronics technology and problems confronting the competency of skills acquired by these students. More also, the discussions were exclusively on the meaning of vocational and technical education, technical education, electrical electronics education and teaching and learning of vocational and technical education.

The population of the study centred on the entire students and teachers of electrical electronics technology in all the four functioning technical college in Edo state. And the sample population include all students and teachers in electrical electronics technology of the Benin Technical College.

Al of four (4) research question that were raised and stated below;

- Are the level of skill competence acquired by electrical electronics students in technical colleges in Edo state adequate enough?
- Does the methods that shows that the skills obtained by students of electrical electronics technology in Edo state technical colleges adequate and good instruments that measures the competency of skills in electrical electronics technology
- Possible problems facing the competence of electrical electronics students in technical colleges in Edo state.
- Basic skills required by electrical electronics technology students in technical colleges in Edo state.
- The research was based on the state of competence of skills that's been acquired by students of electrical electronics technology in technical colleges in Edo state.

Questionnaire was used to collect data from respondents and mean was used to analyse the data collected.

The following are findings of the study;

1. The study revealed that the competency of skills as obtained by both graduates and undergraduates of electrical electronics technology in any of the technical colleges in Edo state is not competent, proficient and adequate enough

2. The study found out that the inadequacy of facilities and obsolete equipment's for teaching and learning of electrical electronics technology in government owned technical and vocational institutions are a result of corruption in the educational system in Nigeria and poor funding.
3. The study also found out that societal view of the course creates inferiority complex on the side of the students
4. The study also shows how the degree of skills learnt is very low as a result of some factors like; corruption of top governmental individuals who have been given the responsibility to manage the funds meant for the infrastructural development of the technical institutions
5. The study also discovered that some basic skills which are needed by these students as a foundation for their career are not taught by teachers of electrical electronics technology.
6. The study showed that the teachers teaching electrical electronics technology are incompetent because of many reasons like; some of them did not really study the course in their higher degree and thus have certificates and proficiency on disciplines relating to electrical electronic, and many teachers have barely attend training and re-training workshops and seminar to upgrade their skills.

CONCLUSION

The study has shown that skills acquired by electrical and electronics students in technical colleges is inadequate, incompetent and does not meet basic standards, training and re-training of technical teacher's, honesty in the provision and procuring of needed equipment's and adequate facilities by top governmental officials who are in charge of disbursing the funds meant for that purpose, replacement of obsolete equipment's and employing teachers who have studied the technical course while in higher institutions; will help increase the proficiency and competency of skills acquired while in technical college.

In view of the findings of the research, it can be reached that the study has been able to answer the research questions and achieve aims objectives.

The conclusion is that skills acquired by electrical and electronics students in technical colleges in Edo state is faced with so many challenges of which possible solutions to possible problems as raise by the researcher will be discussed in the recommendation page of this paper. Also the competence of both teacher and students as regarding the skills proficiency can be achieved by doing what it takes be the best or among the best, by not waiting for the government instead polish themselves and let the touch of their profession shine that the society which tends make them feel inferior is attracted to join in.

RECOMMENDATIONS

Arising from the finding the study made by the researcher,

1. The state ministry of education should employ qualified and competent electrical electronics teachers who will better the teaching and learning process, seriously supervise the outcome of the curriculum of technical colleges in Edo state.
2. Obsolete equipment's should be replaced and electrical electronics workshops should be well furnished with latest and modem tools and machines.
3. Electrical electronics workshop and seminar halls should be maintained and not be used as classrooms, examination halls, or for any other reasons apart from what it has already been made for.
4. Standard test and exams should be carried out so as to increases the proficiency of the skills been taught.
5. Technical teachers teaching method should be mainly demonstration with the appropriate teaching and learning aids
6. Technical teachers especially electrical electronics technology teachers should always go for skill upgrade in government organised workshops and seminars as there's every increase in technology so as to keep abreast about current trends, maintenance practice, servicing etc.

7. Students should learn to give their all to learning to make sure the efforts made by their teachers is not futile, thus co-operating with them learning all what they have been taught.
8. Government should assist in organising seminars and skills-oriented workshop to make the students feel they have a place in nations building.

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UNIVERSITY OF BENIN

FACULTY OF EDUCATION

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

QUESTIONAIRE ON THE SKILLS AND COMPETENCY REQUIRED BY ELECTRICAL TECHNOLOGY STUDENTS IN TECHNICAL COLLEGES FOR SUSTAINABLE EMPLOYMENT EDO STATE

Dear Respondent,

My name is Ochonogor Ugo Kelly I'm a student of the above named department. This questionnaire is designed solely for the purpose of research. I am carrying out a study on: The analysis of skill competency needed by electrical electronics students in technical colleges for sustainable employment in Edo state.

The researcher will be grateful if you would please read the under-stated question carefully and give honest answers by ticking the appropriate column and return to the researcher as the information will be treated with high confidentiality. And the response obtained will be used to address some of the major challenges facing the competence of skills that are being acquired in technical colleges.

Yours Faithfully
OCHONOGOR UGO KELLY

_____

Sign and Date
(Researcher)

SECTION A

- SEX: MALE ( ) FEMALE ( )
- AGE: 15-20 ( ) 21-25 ( ) 26 and above ( )
- CLASS: VOC 1( ) VOC2( ) VOC3( )
- CATEGORY: TEACHER ( ) STUDENT( )
- SCHOOL:_____

SECTION B

Indicate by ticking the appropriate option that best represent your opinion on the subject, using the following rating abbreviations for your responses.

- Strongly Agreed (SA)
- Agreed (A)
- Disagreed (D)
- Strongly Disagreed (SD)

	ITEM STATEMENTS	SA	A	D	SD
SN	**WHAT IS THE LEVEL OF SKILL COMPETENCE ACQUIRED AND REQUIRED BY ELECTRICAL ELECTRONICS STUDENTS IN TECHNICAL COLLEGE IN EDO STATE**				
1	Skills acquired in electrical electronics 4technology meets up to standard expectations				
2	Skills acquired by electrical electronics students in Edo state are the same with that acquired by electrical students in other technical colleges outside the state				
3	Proficiency of the skills in electrical electronics technology in technical colleges is high				
4	The teachers teaching electrical electronics technology do not have sound proficiency on the subject matter on which they teach				
5	Teachers do not know how to teach but know the subject				
6	The teachers do not really know the subject but knows how to teach				

7	The teacher knows the subject and also knows how to teach				
8	Students understanding of any subject In electrical electronics is based on what is been taught in classroom, school workshop, or based on what he/she learnt outside the school				
9	Students do not have the opportunity to go to the workshop because there are no functioning equipment's in the workshop				
10	Students do not go to the electrical electronics workshop because the equipment's are too old and obsolete				
11	The performance of graduates of electrical electronics in Edo state in industry is used to measure the competence of skill of electrical electronics students				
	WHAT IS THE INSTRUMENT AND THE METHOD USED TO SHOW THAT THW SKILLS OBTAINED BY STUDENTS OF ELECTRICAL ELECTRONICS IN EDO STATE ARE COMPETENT ENOUGH TO COMPETE ANYWHERE IN THE COUNTRY				
12	Professional and certificate examinations is a method of measuring the competence of skills in electrical and electronics students				

13	Ability to secure gainful employment in industry is a means of measuring the competency of skills required by electrical and electronics student				
14	Tests and terminal examinations are used to be used to measure the competence of skills in electrical electronics students in technical college in Edo state				
15	Skills from a freed apprentice of a roadside technician when compared with that of an electrical electronics graduate is more competent				
	WHAT ARE THE PROBLEMS FACING THE COMPETENCE OF ELECTRICAL ELECTRONICS STUDENT IN TECHNICAL COLLEGES				
16	Lack of inadequate training of teachers results in incompetent skills taught to electrical electronics students				
17	Corruption of top governmental officials, in both the ministry of education and other tiers of government results in poor competence of electrical electronics technology students in Edo state				
18	Obsolete equipment which are almost useless is a problem facing				

	the competence of skills obtained by electrical electronics students in technical colleges				
19	Lack of technical knowhow of complex equipment in electrical electronics workshop is a major reason for the incompetency of these students in Edo state				
20	Students do not respond to lectures and do Agreed not love technical education especially electrical electronics				
21	Troubleshooting of electrical electronics devices is a skill needed in electrical electronics technology				
	WHAT ARE THE REQUIRED SKILLS NEEDED BY ELECTRICAL AND ELECTRONICS STUDENTS IN EDO STATE				
22	Electrical installation and wiring is a skill needed in electrical electronics technology				
23	The knowledge of radio and television is needed in electrical electronics technology				
24	Advanced skill in electrical electronics is needed like G.S.M repairs				
25	The use of ICT is needed in the acquisition of basic skills in				

	electrical electronics technology				