

**ASSESSMENT OF PRACTICAL SKILLS ACQUISITION OF MOTOR VEHICLE  
MECHANIC STUDENTS IN TECHNICAL COLLEGE, NIGER STATE**

**BY**

**ALAO, Jeremiah  
2014/1/52328TI**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION  
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

**NOVEMBER, 2019**

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**A RESEARCH PROJECT SUMMITTED TO THE DEPARTMENT OF INDUSTRIAL  
AND TECHNOLOGY EDUCATION SCHOOL OF SCIENCE AND TECHNOLOGY  
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(AUTOMOBILE TECHNOLOGY)**

**NOVEMBER, 2019**

**CERTIFICATION**

I ALAO, Jeremiah, matriculation number 2014/1/52328TI an undergraduate student of the department of Industrial and Technology Education certify that the work embodied in this project is original and has not been submitted in part or full for any other diploma or degree of this or any other institution.

ALAO, Jeremiah  
2014/1/52328TI

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Signature and Date

**APPROVAL PAGE**

This project has been read and approved as meeting the requirement for the award of B. Tech degree in Industrial and Technology Education, School of Science and Technology Education, Federal University of Technology Minna.

Dr. R. AUDU

Supervisor

\_\_\_\_\_  
Signature and Date

Prof. R.O. OKWORI

Head of Department

\_\_\_\_\_  
Signature and Date

Prof. H.U. Elobuike

External Examiner

\_\_\_\_\_  
Signature and Date

## **DEDICATION**

This project is dedicated to the entire family of ALAO of all their effort and supports, may God Almighty bless them.

## **ACKNOWLEDGEMENTS**

The researcher's deepest gratitude goes to the father of the fatherless (God almighty) for granting me the knowledge, understanding, wisdom and good health to undertake this research work successfully. Profound gratitude goes to my supervisor Dr. R. Audu, who did not only guide me but made constructive comments, criticism and useful suggestions and resourcefulness towards the realization of this project. The researcher gratitude goes to the project coordinator Dr. A.M. Hassan, the head. of department of Industrial and Technology Education Prof.R.O. Okwori, and all other lecturers in the department, for their intellectual support. A big thanks! God bless you all and renew your strength and wisdom.

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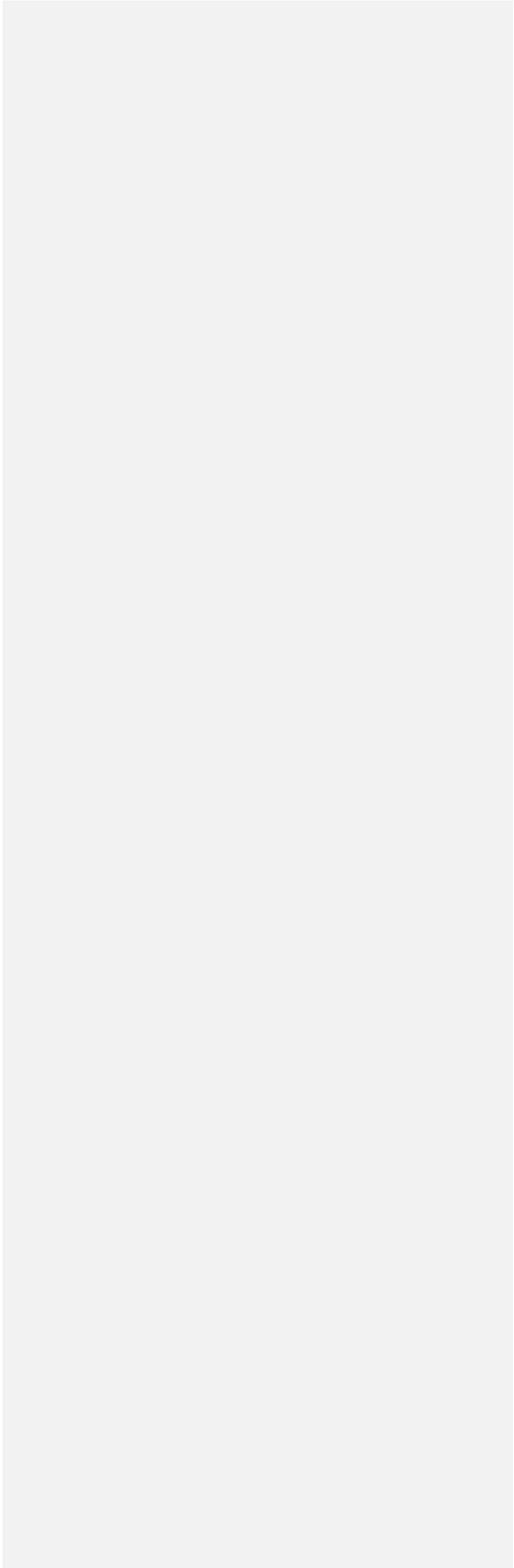
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## **ABSTRACT**

*The general purpose of this study is to identify the assessment of practical skill acquisition of motor vehicle mechanic students in technical colleges in Niger state. Three research questions and three hypotheses were formulated to guide the conduct of the study. A descriptive survey research design was employed for the study. The study was carried out in four Technical Colleges of Niger State. With the total of 116 respondents comprising 93 TCII Motor Vehicle Mechanic students and 23 Motor Vehicle Mechanic teachers in the four technical colleges of Niger state was used as population for the study. A structured questionnaire developed by the researcher was used to collect data for the study. The instrument was validated by 3 lecturers in the Department of Industrial and Technology Education. Were mean was used for answering the research questions, while analysis of variance was used to test the hypotheses formulated for the study at 0.05 level of significant. The findings of the study among others revealed that: motor vehicle mechanic facilities for practical skills acquisition of motor vehicle mechanic are not available in the technical colleges for imparting of practical skills to motor vehicle mechanic students. Based on the findings it was recommended Government at various levels, relevant ministries and industries, wealthy Nigerians and other stakeholder should collaborate to provide standard facilities to enhance motor vehicle mechanic trade in technical colleges, more emphasis should be placed on practical during teaching and learning programme of students, more emphasis should be placed on the acquisition of practical skills for students. In other words, students should be motivated to acquire practical skills.*

## **CHAPTER ONE**

### **1.0**

## **INTRODUCTION**

### **1.1 Background of the Studies**

Motor vehicle mechanics (MVM) is an occupation essentially dealing with knowledge and skills of diagnosing malfunctions and repairing automobiles to standards of safe operation, MVM are set of technicians who apply technical knowledge and skills to repair, service, and maintain all types of automobiles, they make use of tools to adjust, test, diagnose service and completely repair any fault on the motor vehicle for safe and reliable operation according to the manufacturer's specification. In large shops, they may specialize in repairing, rebuilding and servicing specific sections of the vehicles such as the braking system, steering and suspension system among others. In smaller shops, they may work on a wider variety of repairs jobs.

The MVM work at technical college level consists of three components/subjects grouping as follows: Service station mechanics work, Engine maintenance and refurbishing, and Auto electricity. According to Doyin (2004) MVM is a vocational education programmes, which is aimed at preparing one for a specific occupation. Vocational programme are generally designed to prepare individuals for a gainful employment as semi-skilled or skilled worker or technicians or sub-professional in recognized occupation and in new emerging occupations or to prepare individual for enrolment in advanced technical education programme.

However, the objective of MVM work is to enable student to test, diagnose, service and repair any fault relating to conventional motor vehicle main assembly units and system to the manufacturers specification National Board for Technical Education (NBTE, 2001). Manitoba Advance Education and Training (MAET, 2005) stressed that motor vehicle mechanic students need the following attributes: an interest in mechanical/electronic system in motor vehicle, good

problem solving ability, good vision, hearing and sense of smell, manual dexterity and mechanical aptitude, ability to communicate well in English, physical fitness and strength, ability to drive a range of vehicles, ability to read technical diagrams and illustration, have concern for safety and responsible work attitude; and in keeping up to date with technology. According to Abdulkadir and Olaitan (2010) teachers teaching MVM work should equip the technical students with necessary theoretical knowledge and practical skills that will enable them secure paid employment, be able to set up their workshops and be self-employed and even employ others.

The MVM trade is one of the vocational training skill programmes operated basically through the informal setting with apprenticeship mode of instruction. It is designed to produce competent motor vehicle artisans for the technological and industrial development of the society. In Nigeria, Motor Vehicle Mechanic Works trade as a vocational training programme is offered in Technical Colleges, companies and designated skills acquisition centers of Motor Vehicle Workshops across the Nigeria. It is expected that those who acquired MVM skills will be gainfully employed or self-employed after their training.

Skill acquisition can be defined as the form of training by individuals or group of individuals that can lead to acquisition of knowledge for self-sustenance; it involves the training of people in different fields of trade under a legal agreement between the trainers and the trainees for certain duration and under certain conditions (Idoko, 2014). Skills acquisition has been described by scholars as the recipe for eradicating extreme poverty and hunger by creating avenues for employment, thereby introducing an avenue for jobs and wealth creation while instilling self-sufficiency and reliance (Isaac, 2011).

Assessments are meant to inform teaching, improve learning, and assist students in achieving the highest possible standards. Assessment provides needed links among learning outcomes, content,

instructional resources, and teaching and learning activities. Classroom Assessment Techniques are formative evaluation methods that help teachers assess how much students understand the course content and also provide information about the effectiveness of classroom teaching methods (Haugen, 1999). Most significantly, close attention must be paid to the assessment on the use of tools in ways conducive with cognitive processes of how students effectively learn and acquire knowledge and skills in auto-mechanics technology.

## **1.2 Statement of the Problem**

The Federal Republic of Nigeria (FRN, 2004) in the National Policy on Education stated that technical education in which MVM trades is, is a form of education through which practical skills is to be acquired that will enable individuals to be enterprising, self-reliant or self-employed. Technical education programmes generally, require appropriate assessment towards facilitating maximum attainment of the set objectives. For Nigeria to attain automobile technological excellence, it requires an assessment of student's practical skills of MVM in technical colleges. This means that their interest and performances in the area of motor vehicle mechanic must be assessed for greater achievement in relation to resources available the reason is based on the fact that resources for setting up a standard service station for MVM servicing are costly and needed for its successful implementation. Technical education particularly at the post-primary level recently received significant recognition by the Federal Government. The degree of its commitment in practical terms however is still unclear. Also, a deeper view seems to reveal a low students' interest in technical education, a deplorable state of science and technical colleges and a low-quality product of these colleges, which sends dangerous signals for the system. It is these unclear circumstances of technical education at the post-primary level that have motivated this study; assessment of practical skill of MVM student in technical college in Niger state.

### **1.3 Purpose of the Study**

The main purpose of this study is to assess the practical skills of motor vehicle mechanic student in technical colleges in Niger State, specifically the purpose of the study is to determine

1. The extent of practical skills acquisition by MVM students in technical colleges in Niger State.
2. The constraints responsible for the acquisition practical skills by MVM students in Niger State.
3. The strategies for improving the acquisition on practical skills of MVM students in technical colleges in Niger State

### **1.4 Scope of the Study**

This study is focus on assessment of practical skills of motor vehicle mechanic (MVM) student and to determine the level of their practical skills, the constraints responsible for the acquisition of practical skills and strategies for improving the acquisition of practical skills by MVM students in technical colleges in Niger State, this study is also being restricted to On- Board Diagnostic (OBD) systems of the automobile. the findings of this study is apply to all level throughout Nigeria since the operating environment of technical colleges its set-up and circumstance are identical across the various states in Nigeria.

### **1.5 Significance of the Study**

The findings of this study will be of great benefit to Motor Vehicle Mechanic Students in technical college, Motor Vehicle Mechanic teachers in technical colleges, Educational ministries and Curriculum planners.

The students of Motor Vehicle Mechanic will benefit from this finding as it will enhance the student's competency and independence on completion of his study. The gap between theoretical knowledge and practical will be eliminated as the students tend to understand more in the practical class as to that of the theory class. The abilities and skill competencies of the students will be enhanced as they will be doing most of the works on their own. The measure suggested in this research will make the programme more responsible to student practical needs, there by bridging the gap between classroom instructions and actual practice that promotes skills acquisition. Hence the student will contribute greatly to the national development by utilizing the various skills they acquire during the practical skills assessment process of Motor Vehicle Mechanic Students at the various trades of specialty.

The result of this study will be much benefit to motor vehicle mechanic teachers in technical college as it will help them to be aware and identified short-falls inherent in students' practical skills and the constraints or limitations responsible for the acquisition of practical skills and strategies for improving the acquisition on practical skills of MVM student in Niger state, also help them to improve their utilization of instructional material in delivery techniques in motor vehicle mechanic well as enhance accuracy in trouble-shooting, diagnosing, maintenance repair and servicing of the modern cars.

The findings will equally be of great help to educational ministries like National Board for Technical Education (NBTE) in enhancing an organized educational planning and review of the curriculum to accommodate skill acquisitions. Policy makers in education will benefit from the finding which will provide basis to see the need for incorporating practical skill competencies to the planning of educational program in the Nigeria education industry.

This study will provide information which will be utilized by the curriculum planners or Expert in curriculum and instructors for update or readjustment on curriculum and instructional techniques to meet the training objectives. If the practical skill assessment process of Motor Vehicle Mechanic Students is properly utilized, then its application in the industry will contribute a lot towards economic development in the society through the various in Motor Vehicle Mechanic.

#### **1.6 Research questions**

1. What are the extent of practical skills acquisition by MVM students in technical colleges in Niger State?
2. What are the constraints responsible for the acquisition practical skills by MVM students in Niger State?
3. What are the strategies for improving the acquisition on practical skills of MVM students in technical colleges in Niger State?

## 1.7 Hypotheses

The following null hypotheses which were tested at 0.5 level of significance, guided the study.

**H<sub>0</sub>:** There is no statistical significance difference between the mean responses of motor vehicle mechanic teacher and student on the extent of practical skills acquisition by MVM students in technical college in Niger State

**H<sub>0</sub>:** There is no statistical significance difference between the mean responses of motor vehicle mechanic teacher and student on the constraints responsible for the acquisition practical skills by MVM students in Niger State.

**H<sub>0</sub>:** There is no statistical significance difference between the mean response of motor vehicle mechanic teachers and student on the strategies for improving the acquisition on practical skills of MVM students in technical colleges in Niger State.

## **CHAPTER TWO**

### **2.0 REVIEW OF RELATED LITERATURE**

The literature related to this study were reviewed under the following sub-headings:

- History of Vocational and Technical Education in Nigeria
- Practical Skills Acquisition of MVM Student in Technical College
- Strategies for Improving the Acquisition on Practical Skills of MVM Students in Technical Colleges in Niger State
- Summary of review of related literature

#### **2.1 History of Vocational and Technical Education in Nigeria**

The aim of all education in the Nigerian traditional society was character training and job orientation. The education system of Nigeria has been influenced by the British system of education. This type of education neglects the cultural and vocational interest of the nation. In order to ensure job orientation, vocational training was run on the apprenticeship system by the member of traditional society. The " Apprenticeship System " was the earliest type of vocational educational practiced in Nigeria and it employed youths as they learn how to use their hands in a specific trade (vocation). In the course of history, According to Hernes (2004), most education came about through participation, preparation of work and adult life happened by interaction, not through training in separate institution. The reason according to him was that young people took on the tasks of their parents when production remained stable over generations. The children are not as in most cases, trained directly by their parents, rather they are sent to relatives or master

craftsmen. The idea behind this is to ensure discipline and concentration in the trade to be learnt. The apprenticeship system was therefore, a part of a wider education process by which the members of the indigenous societies of Nigeria, in this case passed on or transmit their cultural heritage from one generation to another.

The vocations open to young people at that time includes farming, animal rearing and care, fishing, weaving, carving, blacksmithing, boat making, priests, witch - doctors, shrine keepers, how to till and irrigate the soil and how to stitch a dress. He stressed further that in every society, knowledge needed remained local and specific, it could be transferred directly from parents to the child. In many countries, the so - called " on the job training " is still a predominant method for educating the young.

Vocational and Technical Education (VTE) remain dormant for a long time with the introduction of western education. Historically, vocational is not a new concept in Nigerian education. Before the advent of colonial influence in Africa, there was a traditional indigenous educational system prevalent in African societies. In the precolonial era, despite the vocational training offered to young people through apprenticeship system, mission schools, which flourished during the missionary era in Nigeria introduced farming, bricklaying and carpentry as part of the curriculum. But for the fact that these skills were not seriously regarded by both the learners and parents, the programme was not sustained for too long, except for the Blaize Memorial Industrial School in Abeokuta, founded by some Nigerians and West Indians; and then the Hope Waddel Training Institute in Calabar established by the CMS in 1895. Furthermore, the improvements made in the area of vocational education seem to be parallel with the economic development of Nigeria. The Nasarawa school which was opened in 1909 had a technical wing attached to it. In the technical section, courses were offered in; leather work, carpentry, smiting and weaving. Hope

Waddle Training Institute in Calabar which also had a technical wing offered courses in carpentry and tailoring among other crafts. The policy statement on Education of 1925 helped to uplift the image of vocational education in Nigeria.

The government was invited to take a more active part in the provision of technical education which required more costly equipment as well as properly qualified staff/ manpower. As a result, the Nigerian Government opened some trade training centers and technical institutions. Thereafter, a lot of schools were established by the missionary and Nigerians such as the establishment of secondary Grammar Schools and vehemently opposed vocational schools. This was because according to Ajayi (1963), Nigerian parents considered secondary grammar school as the only route to professional and material success. Fafunwa (1974) in his view of vocational education commented that this type of education emphasizes individual's ability and skill towards doing a certain job. He stated as follows:

- i. Nigerian higher education emphasized societal responsibility, job orientation, vocational exploration and political participation as well as spiritual and moral values
- ii. Children were involved in practical farming, fishing, weaving, cooking, carving, knitting

He, therefore, concluded that even though the type of education Nigerians sought and acquired served the immediate practical needs of job placement in the colonial government, it was not forward looking for the technological needs of the country. Learning of skill in carpentry, tailoring, mechanizing e. t. c started in some schools in Nigeria like the Comprehensive High School Ayetoro and Mubi and the Technical College in Yaba, Lagos. Consequently, in the 1970s, the teaching of science began to assume significance in the curricula of Primary, Secondary and Tertiary institutions in Nigeria. Integrated Science came into the programmes of Primary and Junior Secondary Classes in Secondary Schools, Colleges of Technology and Polytechnics were

established and more attention was focused on the University of Technology. These efforts were directed towards striking a balance between tertiary and science/ technically oriented programmes for vocational education in Nigeria. The Nigerian government took a giant step to promote the concept of VTE by stating the objectives of VTE in her National Policy on Education (2013) as follows:

- i. Provide trained manpower in the applied sciences, technology and business particularly at the craft, advance 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 an individual for self – reliance economically.

These objectives were stated to redeem the bias against VTE. To this day, even though more vocational - technical institutions have been established across the nation as compared with the fewer number of institutions in 1981, the initial bias against and the disdain for VTE is still evident. Students in Polytechnics and Technical institutions reflect this bias against VTE in the enrolment response across the nation.

### **2.1.1 Technical, Vocational Education and Training (TVET)**

Technical and vocational education and training (TVET) is meant to produce different levels of skilled manpower required in the industry for technological advancement of any nation (Chukwuedo and Omofonmwan, 2015). Similarly, Olayinka and Oyenuga (2010) asserted that the graduates of technical and vocational colleges are expected to carry out services, diagnoses, tests and repairs as highlighted in the national curriculum of technical colleges that is in use all over the federation. Based on the foregoing it is expected that to realize the objectives of TVET at the technical college level, the students should be fully exposed to practical training in their fields of endeavours.

Technical and Vocational Education and Training (TVET) is an umbrella term that covers two inseparable concepts, that is the vocational education (VE) and the technical education (TE) (Mustapha 2017). According to Fitzgerald (2014), these concepts wrap up all “those aspects of the educational process 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 occupation in various sectors of economic life”. As such, Kolie and Yasin, (2017) defined the term VE and TE respectively as ‘any form of education whose primary purpose is to prepare persons for employment in recognized occupations’ while the latter is “seen as the formal training of persons to become technicians in different occupations” such as the Motor Vehicle Mechanic (MVM) Electrical installation and Maintenance (EIM), Radio and Television Electronic (RTE) in the Technical colleges.

### **2.1.2 Motor Vehicle Mechanics Programme in Technical College**

The Motor Vehicle Mechanics work Programme was established with the vision to train skilled, reliable and qualified mechanics to support the growing Nigeria economy and advancement in automobile industry. Motor Vehicle Mechanic Work is a vocational trade that prepares individuals for the world of work. It is one of the automobile trades offered in technical colleges in Nigeria (NBTE, 2011). The Motor Vehicle Mechanic Work in technical colleges is aimed at producing competent vehicle mechanics with sound theoretical knowledge and should be able to diagnose and carryout repairs and/or maintenance on all types of Diesel and Petrol Vehicles (National Board for Technical Education, 2001). In other words, the programme for MVM in Nigerian technical colleges is designed to produce competent maintenance craftsmen for all types of motor vehicle. These craftsmen may also wish to take the opportunity for further technical education. (NBTE,2001).

The objective of the programme is to turn out highly qualified individuals who will demonstrate strong skills in the current technologies with the capacity to learn new technologies as the industry and needs of the Nigeria society advances. Which put heavy emphasis on practical skills work with exposure through industrial visits and the industrial Attachment programme by contributing to the maintenance, servicing and repairs of official school vehicles. This teaching approach prepares students very well to enter the industry. Learning and Skills Students who earn their Intermediate Certificate will be prepared to enter the industry or become self - employed (Aina 1994). They will acquire the needed skills to understand and manage all aspects of motor vehicle maintenance and repair work. Students will develop skills through theory and hands - on practical work in the areas of motor vehicle technology. They will learn about the components of an engine, how they function, working principles, how they relate to each other, how to service

them; how the transmission, clutch, brakes, steering's and suspension systems work and how to service them. In addition, students learn about the electrical system of the vehicles which spans both the lights, auxiliary units and the engine systems of a vehicle. Introductions to the new technologies are also taught. Practical skills are learned in the workshops such as how to drill, cut metals and fabrication exercises which are processes done by mechanics. Learning motor vehicle calculations such as how to estimate power produced from an engine and calculating braking efficiency are included (Agbata 2000). Students learn technical drawing, geometrical drawing, engineering drawing and assembly designing so they understand how to properly assess problems in the vehicle and develop solutions for the proper repairs.

**Job Opportunities** Many students go on to establish their own businesses or further their education in Polytechnic education programme. Graduate of technical colleges are employed in industry can find jobs in maintenance and repair for motorbikes, generators, small engines, cars and other vehicles. Students will also be better prepared to go on for further education in heavy duty mechanics for specialized industries such as the Ports and Harbors, Oil Refinery, Textile factories, Nautical machines or boats and Lube Oil factories where manufacturing machinery is used. Other options are metal fabrication jobs. Past students from Technical colleges work today in organizations such as Ports and Harbor Authority.

## **2.2 Practical Skills Acquisition of MVM Student in Technical College**

According to Ogbuanya and Okoli, (2014), acquisition of practical skills can only be possible in a well functional workshop -stocked with relevant equipment and facilities. Such function may include; electrical/electronics, construction, repairs, metal working, wood working, painting etc. School workshops, particularly technical college workshops, offer opportunities for practical training of students in skill acquisition in their technical and vocational trade areas for future development of the key sector of the economy in order to meet the basic needs of the nation. TVET is a skills base type of education (Okoye and Okwelle, 2013).

The ever-changing role of the teachers, especially MVM teachers, demands professional teachers with practical skills knowledge and status in the society. Goro (2000) stated that teachers must be provided with and have access to the necessary technological equipment training and resources that will result in enriched students learning. The teachers in training therefore, need quite a good number of infrastructure and educational facilities like machines, tools, equipment and books. Teachers need to be provided with good recreational facilities for their physical mental and social developmental growth. The Federal Republic of Nigeria (FRN, 2004) acknowledges that no education system can be better than the teachers who operate it. So, to get good quality technology education teachers, the personnel operating it must be well trained to be able to impart same to the students. Isah (1997) further stressed that a teacher who is occupationally qualified and competent in their subject areas can contribute immensely to the success of educational programs in their areas of specialization. Therefore, technical education needs qualified and good teachers or instructors to be able to achieve the programs desired objective.

Dar-Chin, Shao-Tsu and Ming-Hua (2006) postulated that, the world is a global village full of technological and economy-based knowledge for people to prosper. Changes are being

witnessed in society and industry, teaching and learning approaches, social values diversification etc. students can no longer be passive learners and take only what they could get from school alone. Peter, et al., (2010) further affirms the result of their study and stated that, students must adapt to changes in line with their levels of thinking on handling machineries and equipment so as to commensurate with the industrial needs. In order to achieve the national goals as stipulated by the Federal Republic of Nigeria (FRN) in the National Policy on Education (FRN, 2004) teachers should employ appropriate teaching methods in the teaching of TVE. Therefore, TVE teachers' needs to use the right method of instruction in order to enable the students acquire practical skills for them to be employable at the end of the completion of their program. It is on this premise that the study is design to identify the teaching methods that has significant influence on the acquisition of practical skills of MVM students at technical college level.

It is a known reality that a specialized instructor can't instruct adequately without useful apparatuses, gears and machines. The nature in which the educating/ learning happens must be favorable. Educating is an association that exists between an educator and learner (s) in a given connection (classroom/ workshop). A specialized educator that shows mechanical work support understudies can ' t instruct successfully without the utilization of utilitarian, obliged apparatuses, gears and machines in the workshop. The earth in which the instructing/ learning would happen should likewise be favorable. Puyate (2004) pointed out that compelling professional and specialized preparing would not be conceivable without satisfactory courses of action for the procurement of obliged instructional offices. This showed that the accessibility and viable usage of offices for preparing in any specialized school upgrades the fundamental procedure of the aptitudes to be obtained. Powerful preparing additionally enables trainees/ understudies to be beneficial and help emphatically to the advancement of each country. Lacking offices for

educating/ learning specialized exchanges have been seen by various researchers/ specialists in specialized and professional instruction: some of them noted the horrible insufficiency, inaccessibility and non-utilitarian condition of the offices (OKorie, and Ezeji, 1998; Bassey, 2000) separately. Others watched the out dated nature of the introduced machines and the absence of legitimate upkeep society to advance future of the workshop offices (Puyate, 2004; Bello, 2004). This could however be credited to the way that the greater part of the crucial apparatuses, supplies and the substantial machines utilized for instructional purposes as a part of specialized universities are foreign made item and thusly separated from being rare are unquestionable extremely lavish.

### **2.3 The Constraints Responsible for Practical Skills Acquisition of MVM Student in Technical College Niger State Involve the Following**

#### **Workshop Facilities**

These skills can be better acquired in a well-established and functional workshop with the right tools, equipment and machines for effective implementation of the programme (Amimani & Ogunyika, (2011). The TVET curriculum can only be implemented where workshop facilities, tools, equipment and machines are adequate and relevant. For it is through effective utilization of training facilities, the student decline in quality of skill training can be improved. According to Eze (2015), training facilities ultimately enhance instructional curriculum objectives attainment. However, one of the issues of great controversy in technical colleges today is the issue of the poor state of workshop facilities. Puyate (2008) maintained that the present state of technical and vocational education facilities in most technical college workshops is very poor; with no planned means of maintenance of the already broken-down equipment. According to Odu (2011), the tools in the school workshops are at variance with the tools in the industries where the technical and vocational student will work. In the same vein, Ayonmike (2014); Okoye and Okwelle (2013)

posited that tools and machines are short in supply, obsolete and non-functional and thus cannot meet the facility requirements of technical and vocational education programmes.

A work shop with well-equipped and recommended facilities is essential for the assessment of student ' s practical skills competencies of Motor Vehicle Mechanic work maintenance in technical colleges. Infrastructural materials, a well-equipped library, sufficient and organized classroom are also very vital for effective teaching and learning process. The aim of being trained in technical college is to provide technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development. This aim is being frustrated by inadequacy of infrastructural materials and equipment. Jury (2001) " self - reliance, vocational and technical education may be very difficult to achieve because of obstacles which includes inadequate equipment and infrastructure.

#### **Lack of Proper Management**

For Niger state government to provide enough funds, facilities, equipment's and even well-trained personnel is good, but it is also necessary and more important for the administrator to manage the technical colleges effectively and efficiently. As the case may be, expectations in the roles of the nation's economy have been a total failure. In Nigeria, government properties are not seen as anybody property they are being miss used, they feel that if anyone should give birth to a child and name it 'government pickin ' it will surely die the next minute for lack of care. In most cases, people deistical attitude towards government enterprise. They treat issues concerning the organization with unperturbed mind and no responsibility. There is no sense of belonging that actually motivate people to put their best. Everybody goes in there to get the share of his or her national cake.

### **Lack of Competent and Adequate Staff**

Regardless of the status (level) of tyke ' s cerebrum, if there is no one to help up, the mind won't be successful in wording school's benefit. The kid 's require direction. He needs somebody to bestow ethics, learned and special learning in other to make him valuable in the general public. Abdullahi Adamu (2005) said, regardless of quantum of remodel in school, no measure of science and specialized supplies that may he spread in our school, for so long there are no satisfactory preparing and roused showing power, in any ease we work futile. It is imperative that instructors ought to be master in aptitudes and teaching method of their own order. Base on this announcement, it suggests that functional aptitudes needed by understudy of Mechanical work upkeep in specialized universities can't be enhanced without sufficient and capable educators in exchange and instructional method abilities. Ani (1997) in every case the nature of yield relies on upon the nature of information and aptitudes laborers. Sadly, today the issue is the lack of specialized educators.

It is clear that it is to have skilled educators as well as having them in sufficient to handle courses effectively. Ajewole - Orimgunje (2001), likewise follow that absen of qualified instructors/ instructor is one of the issues confronting professional and specialized instruction in Nigeria. Kuje and Makoshi (2000); Obasanjo (2002) additionally followed absence of sufficient educators as one of the stipulations bringing about low quality of graduates. Etuk (2000) remarked that the nature of professional and specialized training relies on the educators ' instruction and the directors. National approach on instruction (2004) recognized that no instructive framework can be superior to the educators that work. It is clear that to get to

understudy reasonable aptitudes procurement courses of action of mechanic work upkeep in specialized universities of Niger state, the instructors must be sufficient and capable enough in the territory of their control to give same into their understudy.

### **Inadequate Funding of Technical Colleges**

Nigeria, very often have been rated by the world statistics as the poorest nation of the world. According to the world report of 900 's, it is not surprising then that the gap between the rich and the poor continues to widen. Olawepo in Kuje and Makoshi (2001) put it clear that wealth and economic self - reliance of any nation is directly proportional to its level of scientific and technological development. Most of those provided are poorly equipped due to lack of adequate funding, lack of financial support for researchers in science and technology fields. Business is capital intensive: hence the fresh graduates may not afford initial capital to purchase tools, equipment to build a work shop to start up at business.

Niger state government should expedite action to execute loan scheme to make leavers of technical colleges or training schools to be self-employed by giving them loan to establish workshop so as to enable them to contribute their quota to the development of the state. Ani (1977) "Nigerians have to apply cleaner production method and plunge in to the arena of new knowledge-intensive industries, welding, carpentry, tailoring etc. this is going too costly, but in the long run, it will surely pay back handsomely". Which we know that it is not easy or possible to manage technical education in any level without funds because it entails huge expenses but if properly managed it will pay back to the nation's growth handsomely.

## **2.4 Strategies for Improving the Acquisition of Practical Skills of MVM Students in Technical Colleges in Niger State**

The ultimate goal of technical college education is for the acquisition of knowledge, attitude and practical skills for sustainable development. The training of technical college students is based on the production of goods and services that are not only relevant to themselves but to the society. The acquisition of life-long practical skills calls for effective and efficient teaching strategies, appropriate evaluation methods and utilization of standard teaching materials, tools, machines, and equipment to ensure the production of desired students with practical skills. Other requirements include training manuals and availability of qualified teachers with experiences. However, such categories of staff are also in high demand in the labour market, but could be suitably motivated for part time teaching in technical colleges. One of the philosophies of occupational education is pragmatism which stresses practical skill acquisition at vocational technical college level of education. For this to be achieved, a more serious approach of instruction and exposure are desired to improve the present trend in Vocational Technical Education (VTE).

This strategy relies on teachers having access to high quality curriculum materials developed by people with expertise in content and pedagogy, as well as sufficient resources and time to design test, and a refine the materials for use in classrooms with diverse students. Teachers and professional developers need to work together to decide how the curriculum will be used with the students and the milestones that will be met at different points in the implementation process of motor vehicle mechanics curriculum. Over time, teachers need to be given different kinds of support, tailored to their changing needs. Teachers share insights with one another as they implement the new curriculum. They also coach one another, conducting classroom visits to support the learning of both teachers and students.

It is crucial that school officials acknowledge that implementing motor vehicle mechanics curriculum takes time, resources, and a commitment to reform. In addition, the district must institutionalize the change by ensuring the continued use of the curriculum after the initial phases. Plans must be established for ongoing professional development for all teachers and support of new teachers or teachers who change grade level.

### **2.5 Summary of Review of Related Literature**

Review of related literature for this study covered the assessment of practical skill acquisition of motor vehicle mechanic students, the constraints responsible for skills acquisition and strategies to improve practical skills acquisition. It is therefore a planned program and learning experiences that begins with exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry - defined work, and advanced and continuing education. Furthermore, the review revealed that the major objectives of Motor Vehicle Mechanic work in technical colleges are for the purpose of:

1. Create a skilled craftsman with a good practical and technical experience
2. Exposing students to career awareness by exploring usable options in world of work
3. Acquiring technical skills in motor vehicle troubleshooting, repair, basic installation and maintenance of tools and equipment's.
4. Enable youth to have an intelligent understanding of the increasing complexity of Technology

Also, the role of assessment is very important to know the level of skill competency of Motor vehicle mechanic work students in technical colleges of Niger state. Assessments are meant to inform teaching, improve learning, and assist students in achieving the highest possible standards. Assessment provides needed links among learning outcomes, content, instructional resources, and

teaching and learning activities. assessment of teaching and learning in motor vehicle mechanic work skills is the process of evaluating the quality appropriateness of the learning process, including teacher's performance and pedagogic approach in technical skills.

The review of related literature will help the present researcher to conceptualize the topic, choice of appropriate research design, method of data collection and method of data analysis for the study. It was also viewed that the curriculum designed for the program should be subjected to constant evaluation since technology keeps changing every day, so that the students will be up to date with the era skills as it may be demanded by the industries who are the chief labor employers.

This chapter describes the method adopted by the researcher in carrying out the study. The chapter is subdivided into the following subheads: Research design Area of this study, Population of the study, Instrument for data collection, Validation of the instrument, Administration of the instrument, Method of data Analysis and Decision rule.

### **3.1 Research Design**

The research design that was used in carrying out this study is a descriptive survey research design where questionnaire was used to collect the data from the respondents for the purpose of the study. Parker (2005), defined survey research design as a descriptive study in which a small or entire population is studied by collecting, organizing and analyzing data from the information gathered through the use of questionnaire. Therefore, the survey design is considered suitable on the assessment of practical skills acquisition of Motor Vehicle Mechanic Students in Technical Colleges Niger State, since the study seek information from a sample that was drawn from a population using questionnaire.

### **3.2 Area of the Study**

This study was carried out in Niger State, Niger is a State in Central Nigeria and the largest State in the country which has a total area of 76,363 km<sup>2</sup> which shares boundary's with Kaduna State (North-East), Federal Capital Territory (F.C.T) (South-East), Zamfara State (North), Kebbi State (West), Kogi State? (South), Kwara State (South-West), while the republic of Benin along Agwara Local Government Area (L.G.A) (North West). Technical Colleges in Niger State are, Government Technical College Bida, Government Technical College Kontogora and Government Technical College Minna, Government Technical College new Bussa, Mamman Kontogora Technical

College Pandogari, Federal Science Technical College Shiroro, Suleiman Barau Technical College Suleja.

### 3.3 Population of the Study

The population for the study consisted of 1086 students and 38 teachers from seven technical colleges in Niger State. Data obtained from Niger State Science and Technical schools Board, Minna in (2019) has shown that there are seven technical colleges in Niger state. The study as shown in table 3.1 below.

**Table 3.1: Distribution of population**

S/N	Technical College	Number of Students	Numbers of Teachers
1.	Government Technical College Bida	166	06
2.	Government Technical College Kotongora	130	04
3.	Government Technical College Minna	189	09
4.	Government Technical College New Bussa	134	04
5.	Kontogora Technical College Pandogari	151	05
6.	Federal Science and Technical College Shiroro	147	04
7.	Suleiman Barau Science and Technical College Suleja	169	06
Total		1086	38

Source: Author's field work (2019)

### 3.4 Sample and Sampling Techniques

A random sampling technique was used, sample of 93 student and 23 teachers' respondents is selected from four colleges, where 15 percent of students are used from each college why the total number of teachers are used.

S/N	Names of Colleges	Number of Students	Numbers of Teachers
1.	Government Technical College Bida	25	06
2.	Government Technical College Kotongora	20	04
3.	Government Technical College Minna	28	09
4.	Government Technical College New Bussa	20	04
Total		93	23

### 3.5 Instrument for Data Collections

The instrument that was used for collection of data is a structured questionnaire developed by the researcher for this study. It consists of Parts 1 and 2; Part 1 contains personal data of the respondents. Part 2 consists of (35) items divided into three Sections of A, B, and C. Section A contains 10 items which deals with the extent of practical skill acquisition by MVM students in Technical College Niger State. Section B contains 13 items which deals with the constrains responsible for practical skill acquisition by MVM Student in Technical College Niger State, Section C consist of 12 items which deals with the strategies to improve acquisition of practical skill by MVM Students in Technical Colleges Niger State.

### 3.6 Validation of Instrument

The instrument for data collection was designed by the researcher and was validated by three lecturers from the Department of Industrial and Technology Education, Federal University of Technology Minna, Niger State. All suggestions and corrections were affected before administering the instrument to the respondent by the researcher and one researcher assistant from each technical college.

### 3.7 Administration of the Instrument

The researcher administered the questionnaire personally and with the help of a researcher assistant in each of the technical colleges. The questionnaires were collected by the researcher and researcher assistant from each of the technical colleges.

Commented [1]:

### 3.8 Method of data Analysis

Data collected were analyzed using mean, mean was used to answer the research questions, while analysis of variance (ANOVA) was used to test the null hypotheses at 0.05 level of significance.

A four (4) point rating scale was used with the following response options.

Strongly Agree	(SA) – 4 points	Agree	(A) – 3 points
Disagree	(D) – 2 points	Strongly Disagree	(SD) – 1 point

### 3.9 Decision Rule

To determine acceptance level, mean score of 2.50 (average of 2 and 3) was use as deciding point between agreed and disagreed, relative to four point's rating scales adopted for the study. Therefore, responses with a mean of 2.50 and above were considered agreed while responses below were considered disagreed. For hypotheses testing, analysis of variance (ANOVA) was used to test the null hypotheses of two groups of respondents, Therefore, any item with analysis of variance (ANOVA) calculated value less than the critical was regarded as not significant. While any item with calculated value greater than or equal than the critical was regarded as significant.

## **CHAPTER FOUR**

### **4.0**

### **PRESENTATION AND ANALYSIS OF DATA**

This chapter is concerned with the presentation of the analysis of data with respect to the research questions asked and the hypotheses formulated for this study. The result of the data analysis for the research questions were presented first followed by those of the hypotheses tested for the study.

#### 4.1 Research Question 1

What is the extent of practical skills acquisition of Motor Vehicle Mechanic students in Technical College Niger State?

**Table 4.1:** Mean responses of students and teachers on the extent of practical skills acquisition of Motor Vehicle Mechanic in Technical College Niger State.

$N_1 = 93, N_2 = 23$

S/N	ITEM	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$	REMARKS
1	The ability to diagnose an engine fault	3.13	2.91	3.02	Agree
2	The ability of using of right tools on the right job	3.59	1.74	2.66	Agree
3	The effective use of modern workshop equipment	1.81	2.48	2.15	Disagree
4	The ability to troubleshoot the ignition system	2.83	3.09	2.96	Agree
5	High level of understanding of the working principle of the vehicle	2.90	2.96	2.93	Agree
6	Ability to work on braking system	3.37	2.96	3.16	Agree
7	The ability to sense the cause of an engine fault	3.29	2.22	2.75	Agree
8	Highly skilled in working on the car air conditioning system	2.35	2.78	2.56	Agree
9	Capable in working on the suspension system of the vehicle	3.01	3.26	3.14	Agree
10	Ability to solve any engine fault of the vehicle	2.86	2.61	2.74	Agree

**KEY:**  $\bar{X}_1$  = Mean of students

$\bar{X}_2$  = Mean of teachers

$\bar{X}_t$  = Average mean of students and teachers

N1 = Number of students

N2 = Number of teachers

The result presented in the table 4.1 above revealed that almost all the groups of respondents agreed with all the items with the average mean ranging from 2.56 – 3.16 and disagreed with item 3 with mean range score of 2.15 as the extent of practical skills acquisition of motor vehicle mechanic student in Technical College Niger state.

#### 4.2 Research Question 2

What are the constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State?

**Table 4.2:** Mean response of students and teachers on the constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State.

S/N	ITEM	X <sub>1</sub>	X <sub>2</sub>	X <sub>t</sub>	REMARK
11	Low releases of funds to the technical college	3.73	3.39	3.56	Agree
12	Lack of competent teachers in teaching	3.06	2.43	2.74	Agree

MVM course					
13	lack of infrastructural facilities for effective Teaching and learning process.	3.72	3.52	3.62	Agree
14	Unavailability of motor vehicle mechanic tools and equipment in the workshop	3.47	3.65	3.56	Agree
15	Use of latest or modern tools and equipment	3.22	2.96	3.09	Agree
16	Less intervention of government on the activities of MVM course	3.46	3.43	3.44	Agree
17	Imitation of student of motor vehicle mechanic in the environment	2.95	2.52	2.73	Agree
18	Poor standards of the school workshop	3.70	3.65	3.68	Agree
19	lack or shortage of teachers of MVN course	3.60	3.83	3.71	Agree
20	Low recognition of MVM student in automotive industries	2.70	2.57	2.63	Agree
21	Low effectiveness of management in the technical college	3.29	3.09	3.19	Agree
22	Over population of student in a particular class	3.73	3.61	3.67	Agree
23	Inadequate power supply	3.23	3.35	3.29	Agree

**KEY:**  $\bar{X}_1$  = Mean of students

$\bar{X}_2$  = Mean of teachers

$\bar{X}_t$  = Average mean of students and teachers

N1 = Number of students

N2 = Number of teachers

The result presented in the table 4.2 above revealed that all the groups of respondents agreed with all the items with the average mean ranging from 2.63 – 3.7 as the constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State.

### 4.3 Research Question 3

What are the strategies for improving the acquisition on practical skills of MVM Students in Technical Colleges in Niger State?

**Table 4.3:** Mean response of students and teachers on the strategies for improving the acquisition of practical skills of MVM Students in Technical Colleges in Niger State.

S/N	ITEM	X <sub>1</sub>	X <sub>2</sub>	X <sub>t</sub>	REMARK
24	Employment of skilled teachers with	3.30	2.48	2.89	Agree

	good knowledge of MVM				
25	Provision of conducive environment for teaching of MVM	3.66	3.70	3.68	Agree
26	Proper funding of technical college from government	3.71	3.83	3.77	Agree
27	Academic seminars for both teachers and student	3.40	3.39	3.39	Agree
28	Retraining of motor vehicle mechanic teachers in the use of modern technology in teaching	3.05	2.74	2.89	Agree
29	Provision of standard tools and machine for MVM student in technical college	3.75	3.65	3.70	Agree
30	Motivation of motor vehicle mechanic teachers	3.32	3.61	3.46	Agree
31	Proper inspection and supervision of student practical work	3.22	3.13	3.17	Agree
32	Conduct periodic evaluation on student practical work	3.19	3.26	3.22	Agree
33	Proper management of technical college facilities	3.23	3.65	3.44	Agree
34	Availability of wi-fi internet connection in the technical college	3.27	2.78	3.02	Agree
35	Taking of students to field trip to automotive industries	3.39	2.78	3.08	Agree

**KEY:**  $\bar{X}_1$  = Mean of students

$\bar{X}_2$  = Mean of teachers

$\bar{X}_t$  = Average mean of students and teachers

N1 = Number of students

N2 = Number of teachers

The result presented in the table 4.3 above revealed that all the groups of respondents agreed with all the items with the average mean ranging from 2.89 – 3.68 as the strategies for improving the acquisition of practical skills of MVM Students in Technical Colleges in Niger State.

#### 4.4 Hypothesis One

**H<sub>01</sub>:** There is no statistical significance difference between the mean responses of motor vehicle mechanic teacher and student on the extent of practical skills acquisition by MVM students in technical college in Niger State.

**Table: 4.4**

One-way analysis of variance (ANOVA) on the extent of practical skills acquisition of Motor Vehicle Mechanic in Technical College Niger State.

Source of Variation	SS	df	MS	F	P-value	F crit	Decision
Between Groups	0.226799196	1	0.226799196	0.956140925	0.341121061	4.413873419	Accepted
Within Groups	4.269648354	18	0.237202686				
Total	4.496447549	19					

The hypothesis shows the f- calculated in Table 4.4 which is 0.956. Since the calculated f-ratio

is below the f- critical of 4.414, the stated null hypothesis is accepted at 0.05 level of significant meaning there is no statistical significance difference in the mean responses of motor vehicle mechanic teacher and student on the extent of practical skills acquisition by MVM students in technical college in Niger State.

#### 4.5 Hypothesis 2

**H<sub>02</sub>:** There is no statistical significance difference between the mean responses of motor vehicle mechanic teacher and student on the constraints responsible for the acquisition practical skills by MVM students in Niger State.

**Table: 4.5**

One-way analysis of variance (ANOVA) on constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State.

Source of Variation	SS	df	MS	F	P-value	F crit	Decision
Between Groups	0.133092309	1	0.133092309	0.792089961	0.38230379	4.259677273	Accepted
Within Groups	4.032642232	24	0.16802676				
Total	4.165734541	25					

The hypothesis shows the f- calculated in Table 4.5 which is 0.792. Since the calculated f- ratio is below the f- critical of 4.259, the stated null hypothesis is accepted at 0.05 level of significant meaning there is no statistical significance difference in the mean responses of motor vehicle

mechanic teacher and student on the constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State.

### 4.6 Hypothesis 3

**H<sub>03</sub>:** There is no statistical significance difference between the mean responses of motor vehicle mechanic teacher and student on the strategies for improving the acquisition of practical skills of MVM Students in Technical Colleges in Niger State.

**Table: 4.6**

One-way analysis of variance (ANOVA) on the strategies for improving the acquisition of practical skills of MVM Students in Technical Colleges in Niger State.

Source of Variation	SS	df	MS	F	P-value	F crit	Decision
Between Groups	0.070836646	1	0.070836646	0.573879534	0.456759452	4.300949502	Accepted
Within Groups	2.715563314	22	0.123434696				
Total	2.78639996	23					

The hypothesis shows the f- calculated in Table 4.6 which is 0.573. Since the calculated f- ratio is below the f- critical of 4.300, the stated null hypothesis is accepted at 0.05 level of significant meaning there is no statistical significance difference in the mean responses of motor vehicle mechanic teacher and student on the strategies for improving the acquisition of practical skills of MVM Students in Technical Colleges in Niger State.

#### **4.7 Findings of the Study:**

Based on the data collected and analyzed, the following findings were made according to research questions raised for the study.

Finding regarding the extent of practical skills acquisition of Motor Vehicle Mechanic in technical colleges of Niger state. Both respondents agreed with the following as the extent of practical skills acquisition

1. Capable in working on the suspension system of the vehicle
2. Ability to work on braking system
3. The ability to diagnose an engine fault

Finding regarding the constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State. Both respondents agreed with the following as the constraints responsible for acquisition of practical skills

1. Poor standard of the school workshop.
2. lack or shortage of teachers of Motor Vehicle Mechanic course.
3. Over population of student in a particular class

Finding regarding the strategies for improving the acquisition on practical skills of MVM students in technical colleges vehicle of Niger State. both respondents agreed with the following as the strategies for improving the acquisition of practical skills

1. Provision of conducive environment for teaching of motor vehicle mechanic
2. Proper funding of technical college from government

3. Provision of standard tools and machine for motor vehicle mechanic student in technical college.

#### **4.8 Discussion of Findings**

The discussion of the findings is based on the research questions posed for the study and the hypotheses.

The findings indicate that there is need for assessment the practical skills acquisition of Motor vehicle mechanic student on performance on general motor vehicle mechanic works to ascertain if the desired aim or goal is achieved. The findings indicate that the extent at which the motor vehicle mechanic student were able to carry out repairs, servicing and ability to detect fault of the engine, the student were able to using of right tools on the right job, the effective use of modern workshop equipment, the ability to troubleshoot the ignition system, high level of understanding of the working principle of the vehicle ability to work on braking system, the ability to sense the cause of an engine fault, highly skilled in working on the car air conditioning system, capable in working on the suspension system of the vehicle, ability to solve any engine fault of the vehicle . General moto vehicle mechanic work that is assessed include ability to diagnose engine faulty, interpretation of the engine fault, repair and maintenance of the suspension system, ignition system, lubrication system, cooling braking system and clutch system etc.

The findings reveal that self-reliance, vocational and technical education may be very difficult to achieve because of obstacles which include inadequate equipment and infrastructure. This factor hampers on the competent of practical skills and experience that will allow students to become self-reliance. Obasonjo (2000) also commented that the poor state of essential infrastructure and dilapidate science and technical equipment's is one of the problems that

contributed to low performance of technical students. The nature in which the educating/learning happens must be favorable.

This finding confirms the necessity of improving the practical skills of MVM students in technical college who are not performing as expected according to Ogbuanya and Fakorede (2009). They traced the inability of science and technical college automobile graduates to perform to lack of skills needed to diagnose faults and repair vehicles in a changing world of automobiles as a result of technological advancement in motor vehicle industry. This assertion is collaborated by Jika (2010) who observed that science and technical college automobile complete their training as half-baked motor mechanics. Improvement in these skills will help the self-employed graduates to perform better in MVM work, increase the life span of the vehicle and ensure safety of motor vehicle owners than relying on the traditional method.

Motor vehicle Mechanic work as per the Federal Republic of Nigeria National strategy of training (2004) is one of the professional courses offered in specialized schools and tertiary level with the end goal of

1. Exposing understudy to vocation mindfulness by investigating usable choices in expression of work
2. acquiring specialized abilities
3. Enable youth to have a keen understanding of the expanding intricacy of engineering understanding which helps in solving problems
4. To create job opportunity and enable youth to be self-reliance

## CHAPTER FIVE

### 5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

Technical and vocational education is that aspect of education that involves the acquisition of techniques and the application of knowledge of practical skill designed to meet the complete needs of modern industry. Technical education is that term of education which equips individual with the acquisition of practical and applied skills, abilities and competency for individual to live in and contribute to the development for the society.

Therefore, practical skills acquisition is very important in the field of vocational and technical education and enables Motor Vehicle Mechanic student to carry out testing, repair installation, troubleshooting and skills in innovation in technical education so as to be ready to fit into the global market on which today's economy depend on.

The study also considered the alarming problem of high rate unemployment among Nigerian graduate which is mostly cause due to lack of practical skills and necessary occupational skills to be self-employed and to be effectively functional in today's world of work. Also, the problem of student's inability to pass NABTEB examination that will enable them to use it for both academic progress and employment.

The approach that was taken is a survey approach which involved the development of instrument for the study. The questionnaire was validated by three lecturers in the Department of Industrial and Technology Education, Federal University of Technology Minna. Thirty-five (35) items validated were used for the study. The instrument for data collection was a structured questionnaire

for 93 student and 23 teachers in Government technical colleges in Bida, Kontongora, Minna, New Bussa of Niger State.

Persons Identify as the population of the study were Motor Vehicle Mechanic students and teachers in Bida, Kotongora, Minna and new Bussa technical colleges in Niger state. Mean and ANOVA were used to analyze the data for this study.

## **5.2 Implications of The Study**

The findings have certain implications on the practical skills acquisition of Motor Vehicle Mechanic Student. Skills acquired in carrying out repairs, installation, troubleshooting, maintenance enable Motor Vehicle Mechanic students to instantaneously manipulate skills, knowledge and attitudes when exposed subsequently to the real working environment. The implication of this study is that the students will be more productive due to the skills they have acquired in the course of their programme to the labour market. Unlike general education programme that tend to orient their graduate towards further education, they are more likely to continue studying with lower participation in the labour market. But technical education graduates are more likely to participate in the labor market whether employed or self-reliant and can further their study when they like.

Another finding of this study with regards to the assessment of final product of the practical is usually undertaking at the end of the acquisition processes. It has been observed that students tend to be more serious with any activity assign to them most especially when they are aware that they will be assessed and if they do not meet up with the criteria they won ' t be allowed to move to technical college or further their education or useful employment. Therefore, this form of assessment should continue more effectively and efficiently. This implies that through this

measure, students will tend to be more serious with practical skill works of Motor Mechanic trade which will eventually result in the attainment of goals and objectives of skill competencies required in the subsequent working environment.

### **5.3 Conclusion**

Vocational and technical education is recognized as that aspect of education which lead to the acquisition of practical skills as well as basic scientific knowledge that will make one productive in the world of work. Therefore, the practical skills acquisition of Motor vehicle mechanic in technical colleges in Niger state should be more concentrated in psychomotor domain than the cognitive aspect of learning, since the one of the objectives of Motor Vehicle Mechanic trade as one of the fields of technical education is to provide acquisition of practical skills that will enable them to secure employment or be self-reliant at the completion of their programme in technical colleges.

In Nigeria today, high skills personnel are needed in the subsequent environment of work in order to deal with the problem of high rate of unemployment and poor performance in NABTEB examination which makes students unable to further their studies or to secure better jobs. There is enough need to actualize the goals of student's performance and practical skills acquisition possess by Motor vehicle mechanic students. During the practical skills acquisition processes, each student should be supervised strictly to ensure they are guided rightly.

#### **5.4 Recommendations**

The following recommendations were made base on the findings of the study:

1. All instructional materials and facilities required for the effective skill competencies in Motor Vehicle Mechanic work trade should be provided by the government for effective teaching and learning for proper practical skills acquisitions.
2. Government should encourage technic college teachers by creation of incentives and promotion scheme and prompt payment of teachers 's salary to enable the teachers put in their best in imparting practical knowledge to Motor Vehicle Mechanic students in technical colleges.
3. Large classrooms for teaching and learning should a be provided to curb the problem of large population of students in a class during teaching and learning of practical skills which pose a problem to the teachers of Motor Vehicle Mechanic in technical colleges.
4. Teachers of Motor Vehicle Mechanic trade in technical colleges should be encourage by organizing seminars, workshops, training on how well to carry out their duties. Incentives and allowance should be provided to assist the teachers in discharging their duties properly.

### **5.5 Suggestion for Further Research**

base on the findings of this research study, the following suggestions were made for the study.

1. Assessment of Practical skill acquisition of Motor vehicle mechanic students in technical colleges of Kwara state.
2. Assessment of instructional materials and facilities used for teaching - learning practical skills of Motor vehicle mechanic students in technical colleges of Niger State

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**APPENDIX B**

**QUESTIONNAIRE**

**FEDERAL UNIVERSITY OF TECHNOLOGY MINNA,  
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION  
INDUSTRIAL AND TECHNOLOGY EDUCATION**

A questionnaire for the Assessment of Practical Skills Acquisition of Motor Vehicle Mechanic Student in Technical Colleges Niger State.

**INTRODUCTION:** This checklist is just a sample of your opinion about the assessment of practical skills acquisition of Motor Vehicle Mechanic Students in Technical College Niger State. Please complete this questionnaire faithfully as possible and sincerely tick (✓) the column that best represent your perception about each item concerning the above topic.

**PART 1**

Status.....                      **Teacher ( )**                      **Student ( )**

A (four) 4-point scale is used to indicate your opinion, tick the word which describes your agreement as shown below:

**SECTION A**

**SECTION B & C**

<b>HIGHLY EXTENT</b>	<b>HE = 4 point</b>	<b>STRONGLY AGREE</b>	<b>SA = 4 points</b>
<b>EXTENT</b>	<b>E = 3point</b>	<b>AGREE</b>	<b>A = 3 points</b>
<b>MEDIUM EXTENT</b>	<b>ME = 2 point</b>	<b>DISAGREE</b>	<b>D = 2 points</b>
<b>NOT EXTENT</b>	<b>NE= 1 point</b>	<b>STRONGLY DISAGREE</b>	<b>SD = 1 point</b>

**PART 2**

**SECTION A**

1. What is the extent of practical skills acquisition by MVM students in technical colleges in Niger State?

<b>S/N</b>	<b>ITEMS</b>	<b>HE</b>	<b>E</b>	<b>ME</b>	<b>NE</b>
1	The ability to diagnose an engine fault				
2	The ability of using of right tools on the right job				
3	The effective use of modern workshop equipment				
4	The ability to troubleshoot the ignition system				
5	High level of understanding of the working principle of the vehicle				
6	Ability to work on braking system				
7	The ability to sense the cause of an engine fault				
8	Highly skilled in working on the car air conditioning system				
9	Capable in working on the suspension system of the vehicle				
10	Ability to solve any engine fault of the vehicle				

**SECTION B**

2. What are the constraints responsible for the acquisition practical skills by MVM students in Technical College Niger State?

S/N	ITEMS	SD	A	D	SD
11	Low releases of funds to the technical college.				
12	Lack of competent teachers in teaching Motor Vehicle Mechanic course.				
13	lack of infrastructural facilities for effective teaching and learning process.				
14	Unavailability of motor vehicle mechanic tools and equipment in the workshop.				
15	Use of latest or modern tools and equipment.				
16	Less intervention of government on the activities of Motor Vehicle Mechanic course.				
17	Imitation of student of motor vehicle mechanic in the environment				
18	Poor standard of the school workshop.				
19	lack or shortage of teachers of Motor Vehicle Mechanic course.				
20	Low recognition of Motor Vehicle Mechanic student in automotive industries.				
21	Low effectiveness of management in the technical college.				
22	Over population of student in a particular class				

23	Inadequate power supply				
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### SECTION C

3. What are the strategies for improving the acquisition on practical skills of MVM Students in Technical Colleges in Niger State?

S/N	ITEMS	SD	A	D	SD
24	Employment of skilled teachers with good knowledge of motor vehicle mechanic				
25	Provision of conducive environment for teaching of motor vehicle mechanic				
26	Proper funding of technical college from government				
27	Academic seminars for both teachers and student				
28	Retraining of motor vehicle mechanic teachers in the use of modern technology in teaching				
29	Provision of standard tools and machine for motor vehicle mechanic student in technical college				
30	Motivation of motor vehicle mechanic teachers				
31	Proper inspection and supervision of student practical work				
32	Conduct periodic evaluation on student practical work				
33	Proper management of technical college facilities				
34	Availability of wi-fi internet connection in the technical college				
35	Taking of students to field trip to automotive industries				

