# STRATEGIES FOR ENHANCING STUDENTS ENROLMENT IN WOODWORK TECHNOLOGY EDUCATION IN FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

**BY**

**YAKUBU, Adamu Papa**

**2016/1/63773TI**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION**

**FEDERAL UNIVERSITY TECHNOLOGY, MINNA, NIGERIA**

**APRIL, 2023**

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**A PROJECT SUBMITTED TO THE SCHOOL OF SCEINCE AND TECHNOLOGY EDUCATION, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA IN PARTIAL FULFILLMENT OF THE REQIUREMENTS FOR THE AWARD OF THE DEGREE OF BACHELOR OF TECHNOLOGY IN INDUSTRIAL AND TECHNOLOGY EDUCATION (WOODWORK TECHNOLOGY)**

**APRIL, 2023**

## DECLARATION

I YAKUBU Adamu Papa Matric No: 2016/1/63773TI 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 University.

…….  …….

YAKUBU Adamu Papa  Signature & Date
2016/1/63773TI

## CERTIFICATION

This project has been read and approved as meeting the requirement for the award of BTech degree in Industrial and Technology Education (Woodwork Technology) of Federal University of Technology, Minna.

Mrs. F.C. Nwankwo
Supervisor

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Signature & Date

Dr. T M. Saba
Head of Department
Industrial and Technology Education

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Signature & Date

Prof. Yaduma P.S.
External Examiner

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Signature & Date

## DEDICATION

This project us dedicated to Almighty Allah for sustaining my life despite all odds who endowed me with his divine grace, guidance, protection, knowledge, wisdom, understanding and success in my course and to my wonderful mother and my entire family, May Allah bless and guide us all, Amen

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My wholehearted gratitude goes to my parents, Alhaji Yakubu Adamu, Hajiya Rukaiyat Adamu and Mrs Ladidi Yakubu, My brothers, Sisters, Cousins, Uncles, Aunties and my entire family for their regular support financially, spiritually and in other meaningful aspects, they have all kept me going. Am also using this opportunity to say a big thanks to my friends, class reps, and entire course mates for the exchange of ideas and help rendered.

## ABSTRACT

This study is aimed at investigating the strategies for enhancing the enrolment of students in woodwork technology education option in Federal University of Technology, Minna. In order to obtain the pertinent information of the study two research question and two objectives and research questions are set to guide the study. Two research hypotheses are tested are 0.05 level of significance. Total number of one hundred thirty (130) students in the Department of Industrial and Technology Education in Federal University of Technology, Minna. A self-structured questionnaire developed by the researcher for the purpose of this study was used to get the desired information from the students. Responses from the questionnaire was analyzed using descriptive statistics mean and standard deviation was used for the research questions. While t-test was used for the hypotheses testing at 0.05 level of significance. The findings of the study revealed that students and parent are not enlighten on the importance of woodwork technology education as most felt woodwork technology education because it has no bright future, people call the experts carpenter, the workshop is not well-equipped and their teachers lack practical skill. Based on the findings of this study, attitudes of parents towards Woodwork Technology; peer group influence and calling experts carpenters affect students' enrolment into Woodwork Technology programme. Therefore, students should be enlightened during students' orientation at the beginning of every academic session about Woodwork Technology and they should be informed that experts in Woodwork Technology are not called Carpenter and the opportunities available to graduates of Woodwork Technology Education should be explained to them. Guidance counselors can play active role also by providing information on importance of Woodwork and job opportunities available for graduates of woodwork technology education. The above information can assist in strengthening students' enrolment in the course.

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# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background of Study

Education still remains the tool for civilization. Education is the main ingredient for national development and one of the greatest forces that can be used to achieve quick desirable change of a nation's economic, political, sociological and human resources (Muideen, 2019).

Technical education is the type of education that is designed to prepare individual learner to be self-reliant and increase earnings. Any occupation where technical information and understanding of the law of science and technology are applied to modern design, production, distribution and services are essential for success (Gambari *et al.*, 2023). In essence, technical education is meant to prepare beneficiaries for employment in recognized occupation by drilling, skills, knowledge and attitude required for utilization of natural resources needed for economic development of the nation and fir their own personal betterment. Technical Education is the key to industrialization in Nigeria. Technology education courses prepare students for the future, which is continuously evolving and driven by technological advancements. Some technology teachers are teaching students how to solve problems and evaluate the results in a systematic way that is essential in today's technological world (Musibau & Festus, 2013). While Iloma et al. (2018) expressed that technology education courses provide students with much more than the general knowledge of small engines, how to build a wall or how to make furniture.

Technology education courses learner to become a technological literate student. Successful individuals within the society can evaluate technical situations, make informed decisions and evaluate their decisions. In the 21st century all members of the society need to posses problems solving skills.

Problem solving skills can be strengthened in technology education courses. Students in technology education courses learn to use tools and machinery, but also introduced to hands on project that demonstrate ways to approach new situations apply their knowledge, and solve problems (Hlophe, 2019; Shobowale, 2022). Skills taught in technology education courses such as woodworking, construction, metalworking and drafting are all necessary for students to compete for employment positions in the competitive and technologically driven 21st century (Omorodion et al., 2022).

Woodwork is one of the practical based courses in Universities. Woodwork basically deals with the use of wood. Wood is a material cut from a complex living organism called tree. Trees are first felled before cutting into logs. Jacobs (2019), stressed that these logs are there after converted or sawn into various sizes, making it suitable for building or rooms such as doors, windows, roof, bed, cupboards, chairs and tables. Woodwork includes timber technology, safety rules in workshop, tools and classification materials such as nails, adhesives, fittings and their uses. Preparation of timber, classification, construction joint, forestry and product of trees, woodturning, repairs, and maintainance of tools and equipment are practical aspect of woodwork (Jacobs & Guardiola, 2019).

Making things from wood is one of the oldest occupation in Nigeria. Woodwork according to National Policy on Education by Federal Government of Nigeria (FGN, 2014) comprises machine/hand tools, carpentry and joinery, upholstery and furniture making.

Woodwork technology as a technical course is more related to engineering. It is one of the most important branches of technical courses and has contributed effectively to the development of many nations. The responsibilities of wood technologist are varied but generally fall into the broad categories of production, distribution or research. Woodwork technology as a technical course plays a key role in understanding the environment we live in and the wood technologist have contributed effectively to the welfare and economic development for many nations

(Musibau & Festus, 2014). The knowledge and problem solving skills of wood technologist are essential in many profession, industries and society at large. It is an acceptable fact that no society can develop unless there are more than enough participation of dedicated workers in all fields critical to and development.

To develop effective student's enrolment and retention strategies, the department must first have thorough understanding of the enrolment "big picture." This requires easy access to information from multiple sources, the ability to share information readily across organizational boundaries, and the insight necessary to identify correlations among multiple factors, such as academic performance, student attitude, use of learning supportive service (Aliyu, 2014).

Woodwork technology education requires ample provision of facilities for effective instruction. It is evident that woodwork technology as a subject in technical colleges cannot be successful if facilities are sparsely provided. The essence of offering woodwork technology in technical colleges helps learners acquire skills that will enable them to be enterprising and self-reliant. Shobowale (2015) stated that colleges of Education in Nigeria train people to acquire a particular skill in order to earn a living. This training qualifies them for jobs in public and private sector of the economy. In the course of production training, students master the knowledge and skills required in the given occupation by any modern equipment and latest working methods.

As at now, the enrolment of students into woodwork technology education as an option in Federal University of Technology, Minna has not been encouraging at all. As at now few students have interest to enroll in woodwork technology, while main students show no or little interest in woodwork education. The problem associated with this has not been really identified by the department or institution. Presently, enrolment into woodwork technology option is still very low compared to other options in the department of Industrial and Technology Education.

If this trend of enrolment is not checked, the dream of having more trained wood technologist or technicians or woodwork educators, etc to meet manpower level needed for science and technological growth and development may be endangered.

## 1.2 Statement of the problem:

Enrolling students in woodwork technology education option in Federal University of Technology, Minna seem to be discouraging. In the 2021/2022 academic session, Automobile Technology Education 61, Building Technology Education 79, Electrical/ Electronics Technology Education 65, Metalwork Technology Education 56 and Woodwork Technology Education 34 (FUT, Minna, ITE Dept, Examination Office, 2021)

This is a great concern, because of this the low enrolment to woodwork technology could be attributed to its involvement in manual dexterity (that is, use of hand), specific work habit that demand commitment, design, construction, maintenance and repairs. Woodwork technology involves practical works and demand high level of co-ordination which most students prefer not to do. The preference for other options (automobile technology, building technology, electrical/electronic technology and metalwork technology) in the department posses a threat to woodwork technology education which may result to shortage of work force in this area in the future.

It is on this background that this research is on strategies for enhancing enrolment of students in woodwork technology education option in Federal University of technology, Minna is necessary.

## 1.3 Purpose of study

The purpose of the study is to find new strategies for enhancing the enrolment of students in woodwork technology education option in Federal University of Technology, Minna. Specifically, this study will

1. Identify problems responsible for the poor or low enrolment of students in woodwork technology education in Federal University of Technology, Minna, Niger State.
2. Propose strategies for enhancing student's enrolment in woodwork technology education Federal University of Technology, Minna, Niger State.

## 1.4 Significance of the study

The findings of the study will be beneficial to the following: The department of Industrial and Technology Education (ITE), Guidance and Counseling Unit of Federal University of Technology, Minna, Woodwork Technology Education, students and Woodwork Technology Education Lecturer:

The findings of the study is to be of immense benefit to the department of Industrial and Technology Education (ITE) Federal University of Technology, as the findings of the study will revealed various strategies that will improve and enhancing student's enrolment in woodwork technology education IN Federal University of Technology, Minna, Niger State.

The Guidance and counselling unit will also benefit from the findings of the study. This study will provide a basis for guidance counselors on enhancing enrolment of Woodwork Technology Education by student in Federal University of Technology, Minna.

The findings of Study will also be beneficial to Students of Industrial education technology, since the study will explores various importance of woodwork technology education to humanity and their career.

The findings of this study will help industrial and technology education (ITE) department increase student's enrolment in woodwork technology education by influencing their decision.

Lecturers of woodwork Technology will also find the study resourceful. The study will reveal the developing strategies to increase student's enrolment in woodwork technology education.

## 1.5 Scope of the study

The research is limited to strategies for enhancing student's enrolment into Woodwork Technology Education in Federal university of technology, Minna

## 1.6 Research Questions

In this study the following research questions were raised as a basis for enhancing students' enrolment in woodwork technology education option

1. What are the factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna?
2. What are the strategies to be adopted for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna?

## 1.7 Hypotheses

**$HO_1$:** There is no significant difference between the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna.

**$HO_2$:** There is no significant difference between the mean response of the 300 level and 500 level students on strategies to be adopted and introduced for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna.

# CHAPTER TWO

# 2.0 LITERATURE REVIEW

## 2.1 Introduction

This chapter present review of literature that is relevant to the study, through the following subheading:

**Conceptual Framework**

Concept of woodwork technology education

Challenge in the woodwork technology education

Factors affecting students' enrolment in woodwork technology education

Strategies for enhancing student's enrolment in woodwork technology education

**Theoretical Framework**

**Related Empirical Studies**

**Summary of review of related literature**

## 2.2 Conceptual Framework

### 2.2.1 Concept of Woodwork Technology Education

Creating something out of wood is a very unique endeavour that has the potential to leave a lasting impression. The education required for woodwork is extensive, both in terms of training and learning opportunities, and it is also a very popular choice of career in Nigeria. Students frequently continue to be involved in their investigation of time periods, which frequently leads to engagement as well as intense concentration (Khabibullaevich, 2022).

Garba and Adamu (2019) Identified to include low class job and unflattering perception to technology education as some of the possible contributors to the decline in students' enrolment in woodwork. Other possible contributors to the decline in students' enrolment in woodwork have been identified by other academics. According to Isa et al. (2020), students have an interest in pursuing a course of study or a career that will result in a high income. As a result, this issue has an impact on the students' choice of career or academic path.

However, according to the lecturers and students of the department of industrial and technology education, some students who give up on their career aspirations appear to be motivated by financial concerns, whereas other students who decide not to pursue woodwork education appear to be more concerned with the design and construction of things using wood. According to Abdulkadir et al., (2021), an adolescent's choice of a career is influenced by a number of factors, such as the life context, the life aptitude, and the educational attainment of the adolescent. He goes on to argue that regardless of whether a young person plans to attend college or enter the workforce, the meetings and challenges associated with reaching this developmental milestone are essential in their lives.

Each person goes through a process that is shaped by a variety of factors, including the environment in which they live, the attitudes they cultivate internally, and the level of education they have obtained (Lee, 2020). Choosing a future profession is a challenge that is typically presented to students in all parts of the world. Prospective undergraduate students are always faced with the challenging problem of choosing a career, subjects, and courses of study in schools, as well as subsequent paths to follow. Often, selecting the appropriate subject combination leading to the profession can make the difference between enjoying and detesting the career in the future. Frustration is an inevitable result of committing oneself to a line of work that cannot be accomplished. Despite the fact that stories have been written about the individual variables that affect career aspirations and of the relationships among them,

technologists have revealed that there are very few theoretical studies on this subject matter, particularly with reference to the woodwork education.

### 2.2.2 Challenges in Woodwork Technology Education

The training of technical personnel has witness formidable challenges ranging from non-availability of adequate human resources to poor funding and poor staff training and retention profiles. Others include university industrial partnership, traditional approach to teaching, defective curriculum, poorly equipped laboratory, poorly monitoring standards for training of prospective technologist and inadequate ICT environment.

The study of woodwork technology education is adventured. One can find it very challenging, sometimes frustrating, occasionally painful and often richly inwardly and satisfying. Our present understanding has been built on the foundation laid by technology to the time which we live and think.

All the professional work discovered a talent and desire for woodworking and nurtured it. Some got into it out of necessity, they want things they could not afford to buy and decided to make them for others, and it started as a relaxing hobby.

VonSuess et al. (2020), investigated how to increase students' enrolment in Technology education in Virginia, department of education. In response to this problem and the relatively low students' enrolment in the department of technology education, a survey was developed to identify possible solutions. The following were the possible solutions to increase students' enrolment in technology education.

**Provide more role models:** Role models and mentors peers all serve as influential individual in the lives of students especially those that require support and guidance due to the amount of pressure they face to conform the traditional norms of the society. Students must be made

conscious of successful technologist in the field. This will provide a heightened awareness of young students, allowing them to realize that they can successfully pursue technological careers. Exposure to role models. Mentors, and peers will initiate and develop student's interest in woodwork technology education. (Shomirzayev, 2022)

**Educate guidance and counselling:** guidance and counselors have the great influence on student's decision to become professionally involved in technology education. It is ironic that some of those employed to help students examine career possibilities are the ones who persuade young technology students not to enroll into technology education. This is because most people believe that the career is for less privileged people and it is very stressful. Therefore, one of the strategies for equitable student's enrolment into woodwork technology education might be implemented by technology lecturers/teachers who are better informed to educate students about the advantages of woodwork technology education in the department. Guidance and counselor must be informed that woodwork technology education is not a dumping ground, and that students of this course has equal economic and technological advantage as the counterparts in other course in the departments (Proulx, 2021).

**Updating curriculum:** updating the curriculum to reflect current technology is a strategy that could help attract student's interest in technology education. New innovation and modern machines must be used to lecture. Teachers should review curriculum to assure that course objectives and learning experiences are directed towards students. Examples and terminologies that are used in technology education courses typically reflects viewpoints. Teachers should use examples that are understood by students. Woodwork technology education teachers must attempt to increase the technological literacy of their students. To accomplish this responsibility, curriculum and instruction must be delivered. Students should be aware of respectable contributions to the content area of woodwork technology. Woodwork technology

education teachers must constantly access their instruction and curriculum to create an environment where students receive equal learning opportunities (Bala, 2020).

**Change in teachers/lecturers:** The most difficult task educators are probably facing is honesty. We all strive to critically examine our actions, words, attitudes and get rid of biased instructors who send wrong message about technology education programs (Bala, 2020).

**Established monitoring:** Encourage students to work with partners to solve problems and achieve common goals. This will ease tension and increase their ability to complete quality work. Teaming up new students with mire experienced students could help address the intimidation felt by any new student and may improve student's enrolment in woodwork technology education (Aliyu, 2014).

**Improved self-concept:** Society and their local culture can send strong signals to the students that technology education is inappropriate for them. Allow and encourage students to work in a group environment, specifically on design oriented activities within a workshop setting. This strategy will provide students with security and support from their peers. Woodwork lectures should help resolve this by building self-confidence in students (Abdulkadir, 2021).

**Improved facilities:** A clean, attractive, orderly and dynamic workshop, classrooms can do wonders to increase students' enrolment in woodwork technology education. To interest young students in pursing technology education courses, it is necessary to dismiss "shop class" stereotypes. Woodwork technology education laboratories and classrooms should be clean, organized, painted appropriately, and display images and quotes of role model in technological endeavors (Abdulkadir, 2021).

**Educate others:** the fact that technology education is still evolving, it is not surprising that many do not understand what thus curriculum contributes to education generally. The

responsibility of the woodwork educator/lecturers to spend positive words about woodwork technology education so that others can see that woodwork technology education, it is not fine art, this could help to change their views on its appropriatenesss (VonSuess et al., 2020).

**Market the program:** This can be done by advertising technology education. A lecturer can draw in more students by marketing or promoting woodwork programs professional trainings/seminars/workshop of woodwork as better course among students (Proulx, 2021).

**Creating job awareness:** This is another way that helps to increase student's enrolment into woodwork technology education. This will enable them know teaching and erecting roadside workshop are not the only jobs available to woodwork technologists. Woodwork technologists are also employable in companies, industries, ministries and so on like other technologists in other fields (Isa et al., 2020).

### 2.2.3 Factors Affecting Students Enrolment in Woodwork Technology Education

Woodwork technology education option is faced with the problem of low students' enrolment because most of them are ill-informed or totally ignorant about their future career. The following are some of the factors available in literature that causes low enrolment of students in woodwork technology education (Isa et al., 2020);

a) Students see woodwork as hard and stressful course, because it deals with theories, principle, concepts and practical. This has gone a long way to affect students' enrolment into woodwork technology education.
b) Lecturer's behavior/attitude also affects the students' enrolment into woodwork technology education. Lecturers are seen harsh, tough and difficult to approach in some cases. The uncompromising attitude of these lecturers tends to scare away students from pursuing woodwork technology education.

c) Students believe that there is no career or prospect opportunity in woodwork. Most of the students believe that at the end of completing their course in woodwork, they might end up being a roadside woodwork technologist with a small workshop. So students also believe that woodwork is for less privileged people, thus making them loose interest in the study of woodwork. Students in the department are not exposed to career proposals in woodwork technology education.

d) Discouragement from peers and parents: Young people conform to the idea and seek approval from parents, members of their peer group and individuals they admire. Parents are commonly the most influential people and role models in the lives of their children. Children observe their parents' interaction and imitate their behavior as they grow older. Parents mostly have the ability to encourage their children to pursue their interest. Regardless of whether media of real life situation arise, parents always need to point out and explain to their children the roles of woodwork technology. Parents can be a very great influence positively, for their children regarding the importance of woodwork technology in the society. Woodwork technology as not been well known to many parents like automobile technology, building technology and so on. Young students frequently make choices similar to those of their peers.

e) Lack of guidance and counselors: Guidance and counseling play a major role in the choices of students' career. Instead of this, level advisers are placed in the department. The choices of career are not prerogative but how students make about choice of career. One reoccurring factor that most students surveyed and agreed upon was that the guidance counselor had the greatest influence on their decision in the choice of technology education (Flowers, 1995). The lack of woodwork technology education can be a problem for students to overcome, when guidance counselors did not play an active role, some students felt that they were discouraged from taking woodwork

technology education courses. Some students are typically faced with an attitude concerning what classes or careers are appropriate for them. Many students believed that counselors are the major roadblock directing them to choose woodwork technology education (Gloeckner & Knowlton, 1996). Guidance counselors need to provide more information to the students about what electives are available and how they might fit in various career options. Students need to be encouraged to consider enrolling in woodwork technology education courses, regardless if they are uncertain whether or not to enroll in woodwork technology education. At some high schools, guidance counselors appears to be preoccupied with college requirements and know little about technology education course offerings (Dugger, 1987). This information contributes to the low number of students enrolled in woodwork technology education.

f) Poorly equipped libraries and workshop: For effective teaching and learning, equipped workshop and libraries are needed but the truth is that the department lacks the essential facilities. Which also affects the enrolment of students in woodwork technology education,

g) Fear of success in woodwork technology education, especially for female students. Another reason for low enrolment in the course. They believe woodwork is masculine in nature and this tends to scare away females and lazy male students from enrolling for the course.

h) The curriculum for woodwork technology education: The curriculum of woodwork technology education contains a lot of practical and has little theoretical classes and thus scares away lazy students. Students in industrial and technology education enjoy working with their hands and being able to work creatively and independently (Silverman & Pritchard, 1996). These courses require students to think critically in a systematic fashion that strengthens problem-solving skills that are needed desperately

in today's society. Learning activities that are integral part of woodwork technology education curriculum includes designing and construction. However, students prefer to concentrate on aesthetic qualities of projects instead of focusing on construction, unfortunately aesthetics are not usually a priority to some teachers. The two main reasons that can be attributed to low student's interest in woodwork technology education include, lack of well trained teachers and curriculum (Rothschild, 1988). The reality of woodwork technology education curriculum pertaining to the interest and needs of students will hopefully be found in future.

### 2.2.4 Strategies for enhancing student's enrolment in woodwork technology education In-service Training as Strategy for Improving Practical Projects in Woodwork

There is severe shortage of suitably qualified technical educators in both the participating institutions and other institutions that have been marked for involvement in the program in the future (Ogbuanya et al., 2021). Moreover, some of the existing technical educators or teachers were either trained on obsolete equipment or have worked with such equipment for so long that their skills need to be updated. The training and re-training of technical educators is therefore a paramount importance in the success of the domesticated old TTTP. Human capital development in technology education is vital to national development, hand tools, machines, instructional materials and infrastructural facilities may be available in abundance but without the trained manpower that will manage these facilities, learning cannot take place in the school. According to the Federal Republic of Nigeria (FRN, 2014) no educational system may rise above the quality of its teachers, therefore, human capital development in technology education is paramount to sustainable. Human capital development according to Ogbuanya et al. (2021) is a process of improvement that embraces all these activities that are geared towards the growth and movement of skills, knowledge and attitude of personnel. A teacher who is not currently in tone with modern trend is dangerous to the system.

**Motivation as Means for Improving Practical Projects in Woodwork**

Motivation could be referred to as the factors which move or activate the organism. Motivation has been called the "neglected heart" of language teaching. Teachers often forget that all learning activities are filtered through students' motivation (Rost, 2006). In this sense, Rost reiterated that students control the flow of the classroom; without student motivation, there is no pulse, there is no life in the class. In order words, motivation refers to something which the teacher does to boost the morale of students such as words of praise, smile performing of developing task, giving students recognition in the class, certification and cognitive interest stimulation. When motivating an audience, you can use general motivational strategies or specific motivational appeals. General motivational strategies include soft sell versus hard sell and personality type. Majority of new student orientation leaders at colleges of education and universities recognize that distinctive needs of students should be considered in regard to orientation information provided at the beginning of the higher education experience. Whyte (1986) raised the awareness of counselors and educators in this regarding. In 2007, the National Orientation Director Association reprinted Whytes research report allowing readers to ascertain improvements made in addressing specific needs of students over a quarter of a century later to help with academic success. If teachers decided to extrinsically reward productive student behaviours, they may find it difficult to extricate themselves from the path. Consequently, student dependency on extrinsic rewards represents one of the greatest detractors from the use in the classroom.

There are a variety of ways to motivate people, including the fear of losing a job, financial incentives, self-fulfillment goals and goals for the organization or groups within the organization. Antoine and Glen (2006) highlighted six strategies for staying motivated during study time. Putting these few ideas into practice can help achieve study goals and keep focused:

1. Develop realistic expectations for yourself; set your own goals and develop a positive attitude towards learning and earning your qualification.
2. List your motivators for achieving your academic goals: extrinsic (grades, parents, money), intrinsic (mastery of material, desire to learn) and other personal reasons.
3. Make a commitment as to when you will work on an assignment. Be specific about when you want to complete it and put the date for starting the assignment on your calendar where you will see it daily. Then stick to your commitment.
4. Break down big assignments into smaller parts and work on the assignment a little at a time; set dates for completing each part.
5. If you are finding assignments difficult, complete small, easier tasks first in order to build your confidence.
6. Ask for help if you don't understand an assignment. Obtaining clarification from a lecturer or tutor may put you back on the right track and decrease frustration.

**Instructional Material for Improving Practical Projects in Woodwork**

The aids which teacher uses in order to teach a lesson could be referred to as instructional materials. Also, Larson (2007) emphasized that the school building could be referred to as physical facility because of its function of housing and protecting other physical workshop building and effectiveness in technical instruction cannot be fully effective when adequate provision is not made for another facility contained in the building. Wring, Wang (2003) submitted that the physical facilities are instructional materials like charts, chalkboards, sample objects and specimen, tools, equipments and machines which are used in making teaching meaningful. He added that physical facilities help the teacher convey intended messages effectively so that the learner receive, understand, retains, and applied experience gained to reach overall educational goals. In listing of physical facilities, Okoro (2004) have the following essential tools and equipment of the school workshop, work bench, engineers'

vice, hacksaw fames, and blades various grades of hand files, drill bits, engineer's pliers, jack planes, smooth planes, chisel, try square, centre punches, scribers, scrapers, metric tape, stack and dies, screwdrivers and more. These tools and equipment help actualize instructions of technical education curriculum. According to Olaitan (2002) arrangement of the workshop, good safety precautionary measures and nice aesthetic outlook are principles that could aid the technical department in planning, organizing and managing facility and equipment. FGN (2004) listed six factors that should be put into consideration while constructing a workshop for technical education and for remodeling old ones. They are:

1. Consideration for aims and objectives of the course to be taught must be useful to the locality and have a relevant philosophical base.
2. The use of units makes the content of course to be offered as a guide for providing hand tools and other equipment.
3. Method and approach should govern the placement of equipment; also the limited general shop shall call for a different arrangement to that used for multipurpose type.
4. The number of students that will be scheduled in the shop at any given time must be considered.
5. Age and mental capacity of students will affect the size of the workshop and equipment.
6. The resources available must be considered. The type of equipment and the expenditure for it must coincide with the money available for the programme.

**Teaching Techniques for improving Handling Woodwork Hand and Machine Tools**

Professional education in teacher education curricula consist of two main components, first content for the teaching specialty (what to teach) component, and second pedagogical courses (How to teach) component. One part of the pedagogical course is

general and special teaching method courses. The focus of this short note is to discuss the content of the special teaching method course for technical vocational education and training (TVET) teacher education as a subject specific pedagogy which is called vocational pedagogy. Teaching strategies are strategies used by teachers to address the diverse needs of students in their classrooms. Teaching and learning are the two sides of a coin. The most accepted criterion for measuring good teaching is the amount of student learning that occurs (Sajjad, 2010).

The delivery system for vocational subjects should not be the same as teaching for academic's subject. Vocational educational subjects consist of manipulative skills and vocational related knowledge which the final objectives of the lessons are the application of those subject in the world of work. The application of skills and knowledge learned should be the focus of teaching and learning activities in vocational education. Vocational education is education for work. In order to reach this aim, instruction strategies used should be directed to all requirement needed in the work place. The students should learn the knowledge, skills, attitudes and values which are important in doing a certain job in such a way as they apply them in the real work setting.

This instructional strategy actually is the implement of two out of four key principle of vocational pedagogy in special teaching method course, or what kind of learning experiences in the vocational teacher education programme that will contribute to students pedagogical and professional competencies. Furthermore, how to integrate the concept and principles of vocational pedagogy into instructional design and implementations of teaching and learning process for vocational subject (Okoro, 2006).

Woodwork student's vocational pedagogy is subject specific pedagogy for vocational course. In the curriculum of TVET teacher education, it is called special teaching method

course. This course consists of two main parts, first part dealing with instructional design and the second one is teaching practice. The instructional design covers the development of vocational education curriculum which some of the students learning activities are formulated, competencies standards and sub-competencies, develop syllabuses, develop lesson plans, prepare teaching materials, prepare teaching aids, and design student evaluation. The second part of the course is teaching practice, which consists of microteaching and minilesson. The purpose of microteaching is to train student teaching in eight basic teaching skills and mini-lesson one is teaching practice to integrate the basic teaching in full teaching. If the students do both teaching practices successfully, they will be readily to do student teaching in vocational schools. Mayes (2007) emphasized that the objective of the special teaching method course is preparing student to master pedagogical competencies of a vocational teacher, which are:

(i) Develop vocational education curriculum

(ii) Develop syllabuses and lesson plans

(iii) Prepare and use instructional media and teaching aids

(iv) Use ICT effectively

(v) Organize teaching materials

(vi) Identify student characteristics

(vii) Apply new instructional paradigm

(viii) Evaluate student achievement

(ix) Carryout education research to enhance the quality of the instruction

## 2.3 Theoretical Framework

### 2.3.1 Theory of Performance (ToP)

The theory of performance (TOP) develops and relates six foundational concepts to form a framework that can be used to explain performance as well as performance improvement. To perform is to produce valued result. A performer can be an individual or a group of people engaging in a collaborative effort. Developing performance is a journey, and level of performance describes location in the journey. Current level of performance depends holistically on six components: context, level of knowledge, level of skills, level of identity, personal factor and fixed factors. Three axioms are proposed for effective performance improvements. These involve a performance's mindset, immersion in an enriching environment and engagement reflective practice.

**Rationale for a Theory of Performance (ToP)**

Wonderful accomplishments also occur in day-to-day practice in higher education. An advisor inspires student to follow their dream. A teacher magically connects with student, and a researcher continually asks the quintessential question that lead to revolution in thinking, a dean inspires an entire college to collaborate and attain wonderful outcomes. A theory of performance (TOP) is useful in many learning contexts.

**Traditional Context:** A ToP informs learning in classroom; workshops and other venues that are traditionally associated with learning.

**Non Traditional Context**: A ToP informs learning in contexts that are not traditionally conceptualized as learning environments. Examples of these contexts include academic advising self professional research groups and colleagues.

**Organization Learning:** A ToP informs learning by organization through the idea of examining the "level of performance" of the organization.

**Performance:** To perform is to take a complex series of actions that integrate skills and knowledge to produce a valuable result. In some instances, the performer is an individual. The performer is a collection of people who are collaborating, such as an academic department, research team, committee, student team or a university.

Component of Performance

The performance of a system, for example a home entertainment system, depends on the components of the system and on the interaction between these components. The level of performance of an individual or an organization depends on the components. While some factors that influence improving performance are immutable. Other factors can be influence by performer or by others. The factors that can be varied fall into three categories. Examples include setting challenging goals, allowing failure as a natural part of attainment high performance and providing conditions in which the performer feels an appropriate degree of safety immersion is a physical, social and intellectual environment can elevate performance and stimulate personal as well as professional development. The elements include social interaction, disciplinary knowledge, active learning, emotions and spiritual alignment.

**Reflective Practice**

Involves action that helps people pay attention to and learn from experience. Examples include observing the present level of performance, noting accomplishments, analyzing strengths and areas for improvement, analyzing and developing identity and improving levels of knowledge.

The ToP present here is similar to other constructs in the literature. The parallel curriculum, advocated by Tomlinson et al (2012) advocates four parallel curriculums. The core curriculum and the curriculum of connections focuses on knowledge construction. The curriculum of

practices emphasizes context and promotes skill development. The importance of having a well founded conceptual model, appropriate method for data collection and reliable and robust system for making inferences about observations is reflective practice in organizational contexts.

### 2.2.2 Social Cognitive Career Theory (SCT)

Social cognitive theory is the one of the most influential new approaches in career development. The theory according to Miller and Dorland (1941) posits that people learn by watching what others do and that human thought processes are central to understanding personality. SCT offers a useful perspective from which to understand and support the strategy for improving practical project in woodwork in colleges of education.

Lent, Hackett and Brown (1999) demonstrated that SCT view strategy for improving practical project in woodwork as a gradual process, which could be in the elementary school year with developmentally appropriate intervention that should continue throughout the school years and beyond a student's entry into workplace, rather than be concentrated just at the end of the high school. Mary and Peter (20000) outlined three key variable underlying SCT as: self-efficiency, outcome expectation and goals. Self-efficiency according to Mary and Peter refer to expectation about one's performance, capabilities that most powerful source of which is the consequences performance effort. Mary and Peter further demonstrated that the third variable, goal appear important in achieving longer-term outcomes such as finishing technical college or higher education or getting particular job.

Self-efficiency according to Lent (1996) posited that students with low self-efficiency and lack of skills can benefit from skill building efforts or form consideration of an alternative occupational pursuit more in line with their current capabilities. Other efficiency enhancing interventions include promoting personal mastery experiences that include challenging school

or job related task; reviewing previous successful performances, and modifying faulty self-efficiency perception by interpreting both past and present success and promoting perceived competence rather than discounting perceived competence.

Perceived competence in the words of Lent and Brown (1996) pined that by selecting certain goals, adolescent is guided their won educational and vocational behaviors. SCT place great emphasis on personal goals by viewing them as the key to motivating behaviour. However, goals will only be followed through if they are clear and specific and held with strong commitment. They also need to be stated publicly. Brown and Lent further demonstrated that the process of vocational interest translated into goals and goals into actions, in influenced by the student's perception of support by significant other and barriers such as lack of funds. Interventions based on SCT would specifically address the barriers and support that student believe effect the strategy for improving woodwork practical project in colleges of education. For example, barrier coping strategies preset ways to identify and manage the barriers ads they occur. SCT recommends that students should be encouraged to recognize opportunities and resources to find a job and to cultivate support systems such as family, neighbor and peer network in order to support their vocational goals.

In summary, strategies flowing from SCT with respect to strategy for improving practical woodwork in colleges of education include:

1. Strategies to recognized opportunities and resources.

2. Strategies to cultivate support systems.

3. Promotion of skill building.

4. Assistance to cultivate a range of alternative occupations.

5. Promotion of personal mastery experience.

6. Review of previous successful performances

### 2.3.3 Theory of Skill Development (TSD)

Theory of Skill Development was propounded by Hubert and Stuart Dreyfus in 1980. In the fields of education and operations research, the Dreyfus model of skill acquisition is a model of how students acquire skills through formal instruction and practicing. One of the major aspects of traditional epistemology, and its manifestation in artificial intelligence research and the philosophy of mind is its emphasis on the formal system of deduction and premises and propositional knowledge. Hubert and Stuart Dreyfus argue that this formal system of deduction is one of the problems with traditional epistemology, since much of our sense of judgment and the process which we go through to form beliefs is not a matter of starting with premises and by plugging them into a formula in order to deduct conclusions. But rather it is a gradual process that involves being embodied in different ways and developing skills that would make it possible for us to deal with the world. By explaining the five stages that an individual goes through in order to become an expert, Dreyfus and Dreyfus justify their point of view on the topic of learning process and skill development.

The main idea behind Dreyfus and Dreyfus's skill development theories is the distinction they make between "knowing that" and "knowing how." They argue that many skills, such as riding a bike or playing chess, could not simply be reduced to "knowing that." The reason that many of us are not conscious of our "knowing how" is possibly because we take our knowing-how for granted. In traditional epistemology, the knowing-how and knowing-that is considered one concept, which is acquired through a formal system of deduction. However, Dreyfus and Dreyfus argue that there are five clear stages that an agent goes through in order to evolve from knowing-that, novice, to knowing-how, expert. These five stages are novice, advanced beginner, competence, proficiency, and expertise.

They also emphasize on the fact that practice is required for the agent to maintain the knowing-how. Without practice, the agent will gradually lose his expertise and is most likely to regress as far back as the competence stage. However, as it appears in the areas of knowledge that an agent is to learn how to perform a task, Hubert and Stuart Dreyfus have introduced a new idea to the traditional epistemology. As Hubert and Stuart Dreyfus argue, in reality, there does seem to be stages that a novice goes through in order to change form a slow and new learner of basic ideas to a fast intuitive thinker of complex situations.

## 2.4 Related Empirical Studies

Gambari *et al.* (2023) investigated the effect of three modes of mobile augmented learning strategies on pre-service teacher learning outcomes in machine woodwork. It focused on determining the effects of mobile blog of Video, Audio and Text on academic achievement and retention of pre-service teachers. Two research questions and two corresponding hypotheses were formulated and tested in the study. The study adopted a quasi-experimental design and the population of the study comprised 350 woodwork students in the six Federal and State Government owned Colleges of Education in the seven North-Western states. The sample was 144 males and 42 females NCE III Woodwork students making a grand total 186. Two instruments constructed by the researcher used for data collection were: Machine woodwork Achievement Test (MWAT) and Machine Woodwork Retention Test (MWRT). MWAT was pilot tested using test-retest method and reliability index of 0.86 was obtained. The study findings showed that there was significant difference in the academic achievement of pre-service teachers taught machine woodwork using Vblog, Ablog and Tblog in favour of the Ablog. There was also a significant difference in the mean retention scores of pre-service teachers taught machine woodwork using Vblog, Ablog and Tblog in favour of Tblog. The study, therefore, concluded that video blog is more effective in enhancing students‟ academic achievement in machine woodwork and development of positive attitude towards machine

woodworking. . Keywords: Mobile blogs, achievement, retention, pre-service teachers and woodwork.

Okwelle et al., (2022) conducted a study to ascertain the roles of educational planners in enhancing enrolment in technical and vocational education programmes in Rivers State. The descriptive survey design was used in the study having a sample of 75 participants (42 educational planners from tertiary institutions and 33 educational planners from technical colleges). The instrument used for data collection was a questionnaire titled "Role of Educational Planners in Enrolment in Technical and vocational Education Questionnaire." The instrument was validated by three experts in technical education. The reliability of the instrument was ascertained via Cronbach Alpha and a reliability coefficient of 0.87 was obtained. A total of 75 copies of the instrument were distributed to the participants and all the distributed questionnaires were retrieved and used for data analysis. Mean was used to answer the research questions and the hypotheses were tested at a 0.05 level of significance using a z-test. The result of the study showed among others that attaching prospects of technical education programmes on billboards and banners; creating and actively participating in social media platforms and establishing partnerships with organisations that can provide job opportunities for technical education graduates are some of the roles educational planners need to play towards enhancing enrolment in technical education programmes. It was therefore recommended among others that educational planners should regularly engage the public on enlightenment programmes to sensitize the masses on the prospects of technical education programmesas well as the need for early introduction of technical education to young people in Nigeria.

The study by Shobowale (2022) determined the strategies for improving woodwork practical projects in tertiary institutions in Lagos State, Nigeria. Three research questions guided the study. The study adopted a survey research design. The study was in four tertiary institutions

offering woodwork technology education in Ojo and Yaba Local Government Areas of Lagos State. The population for the study was 112 respondents, made up of 12 woodwork facilitators, 7 technicians and 93 students from the study areas. No sampling was done, since the population is manageable. A 46-item self-structured instrument title: Strategies for Improving Woodwork Practical Projects Questionnaire (SIWPPQ) was used for the study. The SIWPPQ was face validated by three experts. A reliability co-efficient of 0.83 was obtained using Cronbach Alpha analysis to determine the internal constituency of the SIWPPQ items. The SIWPPQ was administered to all 112 respondents. Data collected were analyzed using Means and Standard Deviation. The findings revealed 13 items on how motivation of students, 16 items on how instructional facilities and 17 items on how appropriate teaching techniques can improve woodwork practical projects. It recommends that guest speakers/entrepreneurs should be invited to motivate students about the benefits practical projects experiences for employability and Computer Aided Instruction (CAI) technique should be employed to improve students‟ Computer Aided Design and Drafting (CADD) skills for self-employment on graduation from tertiary institutions.

Muideen (2019) also investigated the effect of blended learning approach on the performance of technical college students in woodwork, in Oyo State, Nigeria. Blended learning approach is an education program that combines online digital media with traditional classroom methods which requires the physical presence of both teacher and student, with some element of student control over time, place, path, or pace. In this study, the researcher examined the effect of blended learning approach on the performance of technical college students in woodwork, in Oyo State, Nigeria. The study was a pretest; posttest control quasi experimental type. Purposive sampling technique was used to select two co-educational technical colleges in Oyo State. Twenty (20) students of Government Technical College Ibadan were used for Blended Learning Approach (BLA) as experimental group while also 20 students of Government

Technical College Awe participated as control group for Conventional Learning Method (CLM). Three research instruments were used for this study, blended learning approach package on introduction to woodjoint, Learners' achievement test (LAT) and Questionnaire on students' attitudes towards blended learning approach (QSATBLA). BLA package was evaluated and validated by educational technologists to ensure that the package is developed in line with the principle of instructional design while ICT expert ensured that navigation process runs appropriately. LAT was subjected to reliability using Kuder-Richardson formula 20 (KR-20) with the reliability index of 0.81 while QSATBLA also subjected to reliability utilizing Cronbach alpha with an index of 0.85. The findings of the study showed that there was a significant difference in the mean scores of experimental and control groups ($t(38)=7.74$, $p<0.05$) in favour of the experimental group and there was significant difference in the attitude of experimental and control groups with $t(38)=-3.623$, $p>0.05$. Based on the findings, it was recommended among others, that teachers in technical colleges should expose themselves to various available instructional software packages that can foster improve their teaching strategies and further enhance teaching competency and students should be exposed to blended learning approach to promote and encourage positive students' social interaction.

Isa and Kamin (2019) also examined the research viable methodologies for in-corporating Project-based Learning (PoBL) in instructing and learning Woodwork Technology Education (WTE) at tertiary foundations in Nige-ria. A mixed-method approach including both quantitative and subjective technique was utilized for the investigation. The example of the examination involved 50 in-administration postgraduate understudies from Nigerian tertiary foundations concentrating Technical Vocational Education and Training (TVET) in University Teknologi Malaysia for the quantitative perspective and 9 in-administration postgraduate understudies for the subjective part. A 16-thing organized poll was utilized for quantitative information accumulation while semi-organized meeting convention was utilized for

subjective information gathering. Quantitative information was investigated utilizing SPSS programming variant 24 to process the rate and intend to demonstrate the degree of understanding or difference on things of the survey. NVIVO 12 was utilized for subjective data examination. Mem-ber check and pear questioning were utilized to build up the reliability of the interview convention. The principal discoveries of the examination un-covered that PoBL has not been embraced in WTE educating and learning at tertiary establishments of Nigeria, and the conventional instructional methodology including lecture, demonstration and task have been the instructional methodologies received. It was additionally uncovered from the discoveries that rebuilding of WTE educational plan at tertiary organizations in Nigeria to concentrate on a student-focused methodology, just as sorting out courses and workshops for WTE speakers to be familiar with the utilization of PoBL in WTE instructing and learning as a component of the successful techniques for incorporating PoBL in instructing and learn-ing WTE at tertiary establishments in Nigeria. PoBL is appropriate in the instructional procedures of courses like WTE which include intellectual and psychomotor aptitude procurement. At long last, the deficiencies of studies identifying with PobL in Nigeria illuminates the need to attempt this examination in WTE at tertiary organizations.

## 2.5 Summary of Review of Related Literature

Technology has evolved continually since the beginning of human existence. Technological advancement in the 21st century will make easy for all citizens to be technologically literate. Despite our dependence, many individuals lack technical knowledge. However, the students enrolled in woodwork technology education in Federal University of Technology, Minna are low. Low enrollment in woodwork technology education is not considered a new problem but must be addressed (Husher, 1993). Students have been persuaded by many factors to pursue other careers and fields of study, thus limiting their enrollment in woodwork technology education. Peer relationships, the environment where woodwork activities are carried out,

technology classrooms, curriculum, guidance personnel's and general society have all contributed to student's low enrollment in woodwork technology education courses.

The challenges of woodwork technology education include, non-availability of adequate human resource, lack of industrial partnership, defective curriculum and traditional approach of teaching of woodwork technology education and so on. It was received in the literature that students' enrolment in woodwork technology education would increase by providing role models, educate guidance and counsellors about woodwork, use of modern technologies for teaching woodwork, improved facilities and working together with their classmates.

# CHAPTER THREE

## 3.0 RESEARCH METHODOLOGY

This chapter deals with the Research Design, Area of the Study, Population, Sample size and sampling techniques, Instrument of Data Collection, Validation of the Instrument, Administration of the Instrument and Method of data analysis and Decision Rule.

### 3.1 Research Design

The study adopted a descriptive survey for collecting required data for this study. Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather it addresses "what" question (what are the characteristics of the population or situation being studied?) (Patricia *et al*., 2013).

### 3.2 Area of the study

The study will be carried out in the Department of Industrial and Technology Education of Federal University of Technology Minna.

### 3.3 Population of the Study

The population of this study is number of students in the Department of Industrial and Technology Education in Federal University of Technology, Minna.

### 3.4 Sample and Sampling Techniques

There was no sampling because the total population was manageable for the study. Hence, the entire population was used to carry out the study.

### 3.5 Research Instrument

The instrument to be used for data collection is a researcher developed structured questionnaire developed by the researcher for the purpose of this study. The questionnaire contains two sections. Section A solicit for the personal data of the respondents while Section B solicit for information on the factors responsible and the strategies to be adopted for enhancing low student's enrolment in Woodwork Technology Education at Federal University of Technology, Minna. This section (Section B) will be sub divided into two parts.

Part A consists of 13 items which deals with the factors responsible for low student's enrolment in Woodwork Technology Education of Federal University of Technology, Minna.

Part B consists of 14 items which deals with the strategies to be adopted for enhancing low student's enrolment in Woodwork Technology Education of Federal University of Technology, Minna.

### 3.6 Validation of the Instrument

The drafted copies of the instrument for this study will be content validated by three experts in the field of woodwork technology from the Department of Industrial and Technology Education, Federal University of Technology, Minna.

### 3.7 Reliability of the Instrument

The reliability of the research instrument will be used to determine using a split half test using the odd and even numbered items to form the two halves. The two halves will have administered to a sample of teacher and workshop technicians teaching motor vehicle mechanic trade in Niger State College Education. The Cronbach alpha test will be used to determine the reliability of the instrument.

### 3.8 Method of Data Collection

The instrument for data collection was administered and retrieved by the researchers.

### 3.9 Method of Data Analysis

The data collected by the researcher will be analyzed using mean, standard deviation and t-test. Mean and standard deviation will be used for items for the research questions while t-test will be used to test the hypothesis formulated for the study.

The mean score of 2.50 and above on a four-point rating scale will be used as a cut-off point test. Mean and standard deviation will be used for item wise research questions while t-test will be used to test hypothesis formulated for the study. Any item that attract up to 2.50 strongly agreed and agreed and above will be considered agreed and any below 2.49 as disagree and strongly disagreed. Hypothesis are accepted where t-calculated is less than t-table will be rejected where they are equal or greater than t-table value.

The questionnaire item will be rated as follows.

Strongly Agree (SA) 4.0 = 3.50-4.0

Agree (A) 3.0 = 2.5-3.49

Disagree (D) 2.0 = 1.5-2.49

Strongly Disagree (SD) 1.0 = 1.0-1.49

The above point scale of rating, is use to determine and to analyzed the outcome of research question, to note the level of response from the respondents (neither the respondents is Strongly agreed, Agree, Disagree or Strongly disagree with the items specified) whem the questionnaire are administered, this is to enable proper analysis of the response that the respondents' responses to during data collection.

# CHAPTER FOUR

## 4.0 RESULTS AND DISCUSSSION

### 4.1 Research Question One

What are the factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna?

**Table 4.1 Factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna**

| | Statement | Mean | SD | Remark |
|---|---|---|---|---|
| 1 | Students do not like handling and working with woodworking machine and tools. | 2.70 | 0.56 | Agreed |
| 2 | Students always seek for help during woodwork practical period | 2.67 | 0.74 | Agreed |
| 3 | Students do not like woodwork technology education because of some lecturers' behaviour and attitude | 2.77 | 0.73 | Agreed |
| 4 | Students do not like woodwork technology education because their friends hate it | 2.20 | 0.84 | Agreed |
| 5 | Students do not like woodwork technology education because their parents do not like it. | 2.76 | 1.18 | Agreed |
| 6 | Students do not like woodwork technology education because it has no bright future. | 2.72 | 1.01 | Agreed |
| 7 | Students do not like woodwork technology education because people call the experts carpenter. | 2.87 | 0.86 | Agreed |
| 8 | Students do not like woodwork technology education because the workshop is not well-equipped. | 2.89 | 0.77 | Agreed |
| 9 | Students do not like woodwork technology education because their teachers lack practical skill. | 2.77 | 0.78 | Agreed |
| | Grand Mean | 2.72 | 0.87 | Agreed |

Table 4.1 shows the student responses on the factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna. From the result, it was revealed that student agreed students do not like handling and working with woodworking machine and tools, students always seek for help during woodwork practical period, students do not like woodwork technology education because of some lecturers' behaviour and attitude, students do not like woodwork technology education because their friends hate it, students do not like woodwork technology education because their parents do not like it., students do not like woodwork technology education because it has no bright future, students do not like woodwork technology education because people call the experts carpenter, students do not like woodwork technology education because the workshop is not well-equipped and students do not like woodwork technology education because their teachers lack practical skill. with mean value $\geq 2.50$.

## 4.2 Research Question Two

What are the strategies to be adopted for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna?

**Table 4.2 Strategies to be adopted for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna**

| | Statement | Mean | SD | remark |
|---|---|---|---|---|
| 1 | Students' interest should be considered in their choice of woodwork technology education | 3.29 | 0.75 | Agreed |
| 2 | Necessary facilities needed for woodwork technology education course should be provided | 2.17 | 0.31 | disagreed |
| 3 | Scholarship should be awarded to the best graduating student in woodwork technology education. | 3.14 | 0.86 | Agreed |
| 4 | Guidance and counseling for career choice should be provided in Industrial and Technology Education Department | 2.91 | 0.72 | Agreed |
| 5 | Public seminar and enlightenment programme should be organized by woodwork technology education experts on career opportunities for graduates of woodwork technology education. | 2.6 | 0.31 | Agreed |
| 6 | Parents should be enlightened about woodwork technology programme | 3.01 | 0.54 | Agreed |
| 7 | Creation of job opportunities for woodwork technology education graduates | 3.24 | 0.79 | Agreed |
| 8 | Students should be properly guided in the choice of trade. | 2.90 | 0.76 | Agreed |
| 9 | Provision of more role models will help to increase students' enrolment in woodwork technology education. | 3.07 | 0.64 | Agreed |
| 10 | Field trips/ Excursion for beginning students to companies and industries should be organized to enhance students' interest in woodwork technology education | 2.66 | 0.45 | Agreed |
| 11 | There should be provision of well equipped library with woodwork textbooks for effective academic work | 2.73 | 0.39 | Agreed |
| 12 | Educating other students about woodwork will improve students' interest in woodwork technology education. | 2.57 | 0.97 | Agreed |
| | Grand Mean | 2.86 | 0.62 | |

Table 4.2 shows the student responses on strategies to be adopted for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna. From the result, it was revealed that student agreed that students' interest should be considered in their choice of woodwork technology education, necessary facilities needed for woodwork technology education course should be provided, scholarship should be awarded to the best graduating student in woodwork technology education, guidance and counseling for career choice should be provided in industrial and technology education department, public seminar and enlightenment programme should be organized by woodwork technology education experts on career opportunities for graduates of woodwork technology education and parents should be enlightened about woodwork technology programme, creation of job opportunities for woodwork technology education graduates, students should be properly guided in the choice of trade, provision of more role models will help to increase students' enrolment in woodwork technology education, field trips/ excursion for beginning students to companies, and industries should be organized to enhance students' interest in woodwork technology education, there should be provision of well equipped library with woodwork textbooks for effective academic work, educating other students about woodwork will improve students' interest in woodwork technology education. with mean value $\geq 2.50$.

### 4.3 Research Hypothesis One

**$HO_1$:** There is no significant difference between the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna.

**Table 4.3: Summary of *t*-test Analysis of significant difference between the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna.**

| Variable | N | $\bar{x}$ | SD | df | t-value | p-value |
|---|---|---|---|---|---|---|
| 300L | 16 | 2.75 | 0.84 | | | |
| | | | | 26 | 0.808 | 0.072 |
| 500 | 11 | 2.69 | 0.89 | | | |

*NS: Significant

From Table 4.3, it can be deduced that there was no significant difference in the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna. This is reflected in the findings of the hypotheses tested df (26), $t$= 0.808, p>0.05. Thus, the hypothesis which states that "there is no significant difference in the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna." is accepted.

### 4.4 Research Hypothesis Two

**$HO_2$:** There is no significant difference between the mean response of the 300 level and 500 level students on strategies to be adopted and introduced for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna.

**Table 4.4: Summary of *t*-test for Analysis of significant difference between the mean response of the 300 level and 500 level students on strategies to be adopted and introduced for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna**

| Variable | N | $\bar{x}$ | SD | df | t-value | p-value |
|---|---|---|---|---|---|---|
| 300L | 16 | 2.87 | 0.64 | | | |
| | | | | 26 | 0.560 | 0.059 |
| 500 | 11 | 2.85 | 0.6 | | | |

*NS: Significant

From Table 4.4, it can be deduced that there was significant difference in the effective in improving student learning outcomes of interactive apps and games and compared to traditional lecture-based instruction. This is reflected in the findings of the hypotheses tested df (109), *t*= 0.560, p>0.05. Thus, the hypothesis which states that "there is no significant difference between the mean response of the 300 level and 500 level students on strategies to be adopted and introduced for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna" is accepted.

## 4.5 Summary of Findings

The following are summary of the study:

1. Findings on research question one showed that the students do not like woodwork technology education because their friends hate it their parents do not like it it has no bright future, people call the experts carpenter as major factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna.
2. Finding on research question two also revealed students' interest should be considered in their choice of woodwork technology education, necessary facilities needed for woodwork technology education course should be provided, scholarship should be

awarded to the best graduating student in woodwork technology education, Guidance and counseling for career choice should be provided in Industrial and Technology Education Department as strategies to be adopted for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna.

3. The finding on research hypothesis one revealed that there is no significant difference in the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna
4. The finding in research hypothesis two revealed that there is no significant difference between the mean response of the 300 level and 500 level students on strategies to be adopted and introduced for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna.

**4.6 Discussion of Findings**

This study is target at assessing the strategies for enhancing the enrolment of students in woodwork technology education option in Federal University of Technology, Minna. The findings of the study identify problems responsible for the poor or low enrolment of students in woodwork technology education in Federal University of Technology, Minna, Niger State, among these are students do not like woodwork technology education because their friends hate it, because their parents do not like it, it has no bright future, because people call the experts carpenter among others.

The finding of the study also revealed propose strategies for enhancing student's enrolment in woodwork technology education Federal University of Technology, Minna, Niger State, among these are scholarship should be awarded to the best graduating student in woodwork technology education, guidance and counseling for career choice should be provided in

Industrial and Technology Education Department, public seminar and enlightenment programme should be organized by woodwork technology education experts on career opportunities for graduates of woodwork technology education, parents should be enlightened about woodwork technology programme, creation of job opportunities for woodwork technology education graduates among other

The finding on research hypothesis one revealed that there is no significant difference in the mean response of the 300 level and 500 level students on factors responsible for low students' enrolment in woodwork technology education in Federal University of Technology, Minna The finding in research hypothesis two revealed that there is no significant difference between the mean response of the 300 level and 500 level students on strategies to be adopted and introduced for enhancing students' enrolment in woodwork technology education in Federal University of Technology, Minna.

# CHAPTER FIVE

## 5.0 CONLUSION AND RECOMMENDATIONS

### 5.1 Summary of the Study

This study is aimed at investigating the strategies for enhancing the enrolment of students in woodwork technology education option in Federal University of Technology, Minna. In order to obtain the pertinent information of the study two research question and two objectives and research questions are set to guide the study. Two research hypotheses are tested are 0.05 level of significance. Total number of one hundred thirty (130) students in the Department of Industrial and Technology Education in Federal University of Technology, Minna. A self-structured questionnaire developed by the researcher for the purpose of this study was used to get the desired information from the students. Responses from the questionnaire was analyzed using descriptive statistics mean and standard deviation was used for the research questions. While t-test was used for the hypotheses testing at 0.05 level of significance. The findings of the study revealed that students and parent are not enlighten on the importance of woodwork technology education as most felt woodwork technology education because it has no bright future, people call the experts carpenter, the workshop is not well-equipped and their teachers lack practical skill. Based on the findings of this study, attitudes of parents towards Woodwork Technology; peer group influence and calling experts carpenters affect students' enrolment into Woodwork Technology programme. Therefore, students should be enlightened during students' orientation at the beginning of every academic session about Woodwork Technology and they should be informed that experts in Woodwork Technology are not called Carpenter and the opportunities available to graduates of Woodwork Technology Education should be explained to them. Guidance counselors can play active role also by providing information on importance of Woodwork and job opportunities available for graduates of woodwork

technology education. The above information can assist in strengthening students' enrolment in the course.

## 5.2 Implication of the Study

The findings of the study is found to be beneficial to the department of Industrial and Technology Education (ITE), Guidance and Counseling Unit of Federal University of Technology, Minna, Woodwork Technology Education, students and Woodwork Technology Education Lecturer:

1. The findings of the study serve as mode of revealing various strategies that will improve and enhancing student's enrolment in woodwork technology education in Federal University of Technology, Minna, Niger State.
2. The study will provide a basis for guidance counselors on enhancing enrolment of Woodwork Technology Education by student in Federal University of Technology, Minna.
3. The findings of Study will be beneficial to students of industrial education technology, since the study will explores various importance of woodwork technology education to humanity and their career.
4. The findings of this study will help industrial and technology education (ITE) department increase student's enrolment in woodwork technology education by influencing their decision.
5. Lecturers of woodwork Technology will also find the study resourceful. The study will reveal the developing strategies to increase student's enrolment in woodwork technology education.

## 5.3 Contribution to Knowledge

This study established the fact that there is wrong perception of student on the importance of woodwork technology. It was further asserted that there is need for incentive program that will

encourage and draw attention of student, teachers and parent to wooodword technology as a course.

## 5.4 Conclusion

Based on the finding of the study on the assessment of new strategies for enhancing the enrolment of students in woodwork technology education option in Federal University of Technology, Minna. The study explores the problems responsible for the poor or low enrolment of students in woodwork technology education in Federal University of Technology, Minna, Niger State and propose strategies for enhancing student's enrolment in woodwork technology education Federal University of Technology, Minna, Niger State.

It could be concluded that students and parent are not enlighten on the importance of woodwork technology education as most felt woodwork technology education because it has no bright future, people call the experts carpenter, the workshop is not well-equipped and their teachers lack practical skill.

Based on the findings of this study, attitudes of parents towards Woodwork Technology; peer group influence and calling experts carpenters affect students' enrolment into Woodwork Technology programme. Therefore, students should be enlightened during students' orientation at the beginning of every academic session about Woodwork Technology and they should be informed that experts in Woodwork Technology are not called Carpenter and the opportunities available to graduates of Woodwork Technology Education should be explained to them. Guidance counselors can play active role also by providing information on importance of Woodwork and job opportunities available for graduates of woodwork technology education. The above information can assist in strengthening students' enrolment in the course

## 5.5 Recommendations

Based on the findings of the research, the following recommendations are:

i. Guidance counselors should provide relevant information about Woodwork Technology Education and educate students about the benefits they will derive from the course after graduation.

ii. Woodwork Technology workshop should be equipped with modern facilities. This can aid in improving students' enrolment in the course.

iii. Woodwork Technology Education section should partner with industries, companies and ministries in order to strengthen the programme. This can be done through field trip and inviting resource persons to talk to students before choosing area of specialization. This can assist in improving students' enrolment in the course.

iv. Woodwork lecturers should pay attention to students' problem when their assistance is sought especially with reference to the course. This can also enhance students' interest in the course leading to increase in enrolment in the programme.

v. Lecturers in Woodwork Technology Education should encourage students to enrol in the course by using themselves as role models and also by telling the students the benefits of being Woodwork Technology experts.

**5.6 Suggestions for further Studies**

1. Assessment of student achievement in wood technology education with the aim of evaluating teacher quality among technical colleges in Minna

## REFERENCES


Abdulkadir, H., Sabo, A., Hassan, A., Audu, R., Kareem, W., & Idris, A. (2021). Assessment of Resources Required for Woodwork Technology Education Programme in College of Education, Minna, Niger State.

Aliyu, A. M. (2014). Strategies for improving practical projects in woodwork in Colleges of Education (Technical) in North-Western States of Nigeria. Unpublished M.Ed Thesis. Department of Vocational Teacher Education, University of Nigeria, Nsukka

Bala, M. M., KAREEM, W., ABDULLAHI, M., & FRANKA, C. (2020). Information and communication technology for entrepreneurship skills development in woodwork trade in technical school in nigeria. *Journal of Science Education, 7,84 -92.*

Gambari, I., Abanikannda, O., Kareem, W., Abdulraheem, I., & Chukwuemeka, J. (2023). Effects of Mobile Blogs Augmented Learning Strategies on Pre-Service Teachers' Learning Outcomes in Woodwork in North Western Nigeria.

Garba, A., & Adamu, A. (2019). The Role of Woodwork Trade in Alleviating Poverty. *Gombe Technical Education Journal*, *12*(1), 115-120.

Hlophe, T. M. (2019). *Exploring factors that affect the teaching and learning of woodwork and carpentry in Form V involving pre-vocational students at a high school Swaziland: an ethnographic case-study* (Doctoral dissertation).

Iloma, U., Ogbowu, C. N., & Dimkpa, I. E. (2018). Improving maintenance of instructional facilities for achieving quality assurance in technical colleges in South-South of Nigeria. International Journal of Education and Evaluation, 4(5), 23-32.

Isa, M. U., Kamin, Y. B., & Lawal, U. (2020). Integrating project based learning components into woodwork technology education curriculum at colleges of education in Nigeria. *Universal Journal of Educational Research*, *8*(5A), 63-72.

Isa, M. U., Kamin, Y. B., Salihu, Y. I., Shuaibu, H., & Cledumas, A. M. (2020). Enhancing Employability Skills of Woodwork Technology Education Students through Project Based Learning at Colleges of Education (Technical) in Nigeria. *Universal Journal of Educational Research*, *8*(9A), 31-40.

Isa, M., & Kamin, Y. (2019). Effective strategies for integrating project based learning into woodwork technology education and understanding at tertiary institutes in Nigeria. *International Journal of Emerging Technologies in Learning (iJET)*, *14*(20), 120-136.

Jacobs, B. A., & Guardiola, J. (2019). Career and Technical Education in Michigan.

Khabibullaevich, R. B. (2022). Formation of Professional Culture of Future Technology Education Teachers Through National Values (On the Example of the Direction of the Art of Woodworking). *Periodica Journal of Modern Philosophy, Social Sciences and Humanities*, *6*, 26-30.

Lee, I. J. (2020). Applying virtual reality for learning woodworking in the vocational training of batch wood furniture production. *Interactive Learning Environments*, 1-19.

Muideen, B. A. (2019). Effect of blended learning approach on the performance of technical college students in woodwork, in oyo state, nigeria. *Turkish Online Journal of Educational Technology*, 122.

Musibau, A. Y., & Festus, O. A. (2014). Effective management of tertiary education in Nigeria as a panacea to good governance and national security. Higher Education of Social Science, 7(3), 1-6.

Ogbuanya, C. T., Okeke, C. I., & Hassan, A. M. (2021). Effects of challenge-based and activity-based learning approaches on technical college students' achievement, interest and retention in woodwork technology. *International Journal of Research in Business and Social Science (2147-4478)*, *10*(7), 330-341.

Okwelle, P. C., Hassan, R. T., & Ezinma, K. C. (2022). Role of educational planners in enhancing enrolment in technical and vocational education programmes in rivers state. *Irish Journal of Educational Practice*, *5*(5).

Omorodion, S. O., Ibeneme, O. T., & Ayodele, O. I. (2022). Determination of School Public Relations Activities for Improving Students' Enrolment in Technical Education Programmes in Colleges of Education in Delta State. *Puissant*, *3*, 433-441.

Proulx, J. (2021). Promoting Growth Mindset in Middle School Woodworking Class: An Elementary Teacher's Journey from the Classroom to the Wood Shop.

Shobowale, I. O. (2015). Development of entrepreneurship skills training module in upholstery and furniture-making for improvement of craftsmen in Lagos State, Nigeria. Unpublished Ph.D Thesis. Department of Vocational Teacher Education. University of Nigeria, Nsukka

Shobowale, I. O. (2022). Strategies for improving woodwork practical projects in tertiary institutions in Lagos State, Nigeria. International Journal of Educational Research, 10(1), 102-111.

Shomirzayev, M. K. (2020). Education is personally focused technology. *European Journal of Research and Reflection in Educational Sciences Vol*, *8*(8).

Von Suess, R., Grabner, M., Baumann, C., Blasinger, F., Nemestothy, S., Stiefelbauer, C., ... & Winkler, J. (2020). Woodworking Revisited--Employing State-of-the-Art Video Technologies in Educational Contexts. *Turkish Online Journal of Educational Technology-TOJET*, *19*(2), 52-64.

## APPENDIX

Department of Industrial and Technology Education

Federal University Technology, Minna,

Niger State.

Dear Respondent,

I am an undergraduate student of Industrial and Technology Education in the above named University. I am presently conducting research on **NEW STRATEGIES FOR ENHANCING THE ENROLMENT OF STUDENTS IN WOODWORK TECHNOLOGY EDUCATION.** The Questionnaire is designed as part of the study to collect relevant information for a successful completion of this research.

Please kindly provide response to these questions; assuring you that it will purely be used for academic purposes alone.

Thank you for your anticipated cooperation.

Yours sincerely,

**YAKUBU Adamu Papa**

**2016/1/63773TI**

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

**M.B 65, MINNA NIGER STATE**

**NIGERIA**

**SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION**

**NEW STRATEGIES FOR ENHANCING THE ENROLMENT OF STUDENTS IN WOODWORK TECHNOLOGY EDUCATION**

**Instruction:**

Below are respondents' personal information. Please tick (√) the appropriate information in the spaces provided.

**SECTION A**

**RESPONDENT'S PERSONAL DATA**

1. Sex : Male () Female ()

2. Age : 23 – 32 ( ) 33 - 42 ( ) 43 and above ( )

3. Level: _____

## SECTION B

**INSTRUCTION:**

Below are some questions to new strategies for enhancing the enrolment of students in woodwork technology education. Please tick (√) the appropriate column to indicate the extent to which these skills are required.

SA = Strongly Agree (4 points) SD = Strongly Disagree (1 point)

A = Agree (3 points) D = Disagree (2 points)

**Question One: what are the problems responsible for the poor or low enrolment of students in woodwork technology education in Federal University of Technology, Minna, Niger State.**

| SN | Item | SA | A | D | SD |
|---|---|---|---|---|---|
| 1 | Students do not like handling and working with woodworking machine and tools. | | | | |
| 2 | Students always seek for help during woodwork practical period | | | | |
| 3 | Students do not like woodwork technology education because of some lecturers' behaviour and attitude | | | | |
| 4 | Students do not like woodwork technology education because their friends hate it | | | | |
| 5 | Students do not like woodwork technology education | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | because their parents do not like it. | | | | |
| 6 | Students do not like woodwork technology education because it has no bright future. | | | | |
| 7 | Students do not like woodwork technology education because people call the experts carpenter. | | | | |
| 8 | Students do not like woodwork technology education because the workshop is not well-equipped. | | | | |
| 9 | Students do not like woodwork technology education because their teachers lack practical skill. | | | | |
| 10 | Students do not like woodwork technology education because people feel it is a course for student with low I.Q | | | | |

**Question Two: What are the Propose strategies for enhancing student's enrolment in woodwork technology education Federal University of Technology, Minna, Niger State.**

| SN | **Item** | SA | A | D | SD |
|---|---|---|---|---|---|
| 1 | Students' interest should be considered in their choice of woodwork technology education | | | | |
| 2 | Necessary facilities needed for woodwork technology education course should be provided | | | | |
| 3 | Scholarship should be awarded to the best graduating student in woodwork technology education. | | | | |
| 4 | Guidance and counseling for career choice should be provided in Industrial and Technology Education Department | | | | |
| 5 | Public seminar and enlightenment programme should be organized by woodwork technology education experts on career opportunities for graduates of woodwork technology education. | | | | |
| 6 | Parents should be enlightened about woodwork technology programme | | | | |
| 7 | Creation of job opportunities for woodwork technology education graduates | | | | |
| 8 | Students should be properly guided in the choice of trade. | | | | |
| 9 | Provision of more role models will help to increase students' enrolment in woodwork technology education. | | | | |
| 10 | Field trips/ Excursion for beginning students to companies and industries should be organized to enhance students' | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | interest in woodwork technology education | | | | |
| 11 | There should be provision of well equipped library with woodwork textbooks for effective academic work | | | | |
| 12 | Educating other students about woodwork will improve students' interest in woodwork technology education. | | | | |