STRATEGIES FOR IMPROVING PRACTICAL PROJECTS IN WOODWORK IN COLLEGES OF EDUCATION (TECHNICAL) IN NORTH-WESTERN STATES OF NIGERIA

By

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A THESIS SUBMITTED TO THE DEPARTMENT OF VOCATIONAL TEACHER EDUCATION IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER DEGREE IN INDUSTRIAL TECHNICAL EDUCATION

AUGUST, 2014

APPROVAL PAGE

This project has been approved for the Department of Vocational Teacher Education, University of Nigeria, Nsukka.

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CERTIFICATION

I, Aliyu Abdul Makarfi a post graduate student in the Department of Vocational Teacher Education and with Registration Number PG/M.ED/09/51603 has satisfactorily completed the requirements for the course and research works for the Master Degree in Industrial Technical Education (Woodwork). The work in this project is original and has not been submitted in part or full for other diploma or Degree of this or any other University

……. ……

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Student Thesis Supervisor

DEDICATION

This project is dedicated to:

Alhaji (Dr) Senator AliyuMakarfiand my beloved wife,Balkisu

ACKNOWLEDGEMENTS

My sincere gratitude goes to Allah the Lord of the worlds for seeing me through to the end of this research work. Equally, I would like to acknowledge the unflagging support of my able supervisor, Dr. E.A.O. Anaele, for his effort and endurance throughout the course of the research work. May God's protection be with him and his family. I would like to appreciate Dr. T.C. Ogbuanya for her contribution during the course of the work and other lecturers at the Department of Vocational Teacher Education.

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ABSTRACT

The study was motivated by a great concern about the future and continuity of woodwork practical projects in all tiers of society and our education system particularly in Colleges of education (Technical). The concern stemmed from poor performance, low and declining skill practice in performance. Pertinent questions and doubts were raised on the strategies employed by teachers currently teaching woodwork in Colleges of Education (Tehcnical). The study therefore focused on the in-service training, motivation, instructional materials and teaching technique in woodwork practical project as a frame of reference. Four research questions guided the study and hypotheses formulated were tested at 0.05 level of significance. The study adopted a survey research design. The area of the study was the seven Northwestern states. The population and sample for the study was made up of 15 woodwork lecturers and 28 instructors in the seven Colleges of Education (Technical). A questionnaire titled "Strategies for improving practical projects in woodwork in Colleges of Education (Technical) in Northwestern states of Nigeria" consisting of 70 items was structured, based on the woodwork practical projects, administered to 43 teachers. Data collected were analyzed using eh means and test statistics. The study recommended re-training, motivation and in-service training for woodwork teachers not once but on regular basis through workshops and seminars.

CHAPTER I

INTRODUCTION

Background of the Study

Woodwork is one of the practical-based courses in Colleges of Education (Technical). Woodwork basically deals with the use of wood. Wood is a material cut from complex living organism called tree. Trees are first felled before cutting into logs. Waltan in Mohammed (2011) stressed that these logs are thereafter converted or sawn into various sizes, making it suitable for building and constructional purposes. Woodwork is the art of producing objects or things from wood in buildings or rooms such as doors, windows, roof, bed, cupboards, chairs, and tables. Woodworkincludes timber technology, safety rules in the workshops, tools and classification of materials such as nails, adhesives, fitting and their uses. Preparation of timber, classification, construction joint, forestry and product of trees, woodturning, repairs, and maintenance of tools and equipment are practical aspect of woodwork (Rix, Has, and Teixeira 2008).

Making things from wood is one of the oldest occupations in the world. Woodwork according to National Policy on Education (Federal Government of Nigeria [FGN], (2004) comprises machine/hand tools, carpentry and joinery, upholstery and furniture making. In the past, the woodwork personnel were the most important person in the house building industry being the designer, builder and furnisher of the home. All woodwork students learn the skills that enable them to work in a workshop or on-site, these skills are transferable from one discipline to the other (Scottish Further Education Unit, 2005). At a workshop bench a joiner can make a great range of components: door and screens, windows and stairs to name a few. On site, a carpenter will be involved in the construction of a building, building partitions, floors, roofs and the installation of the components made by the joiner (Berger 2003). The craft of the woodwork has a real and tangible tradition behind it, which involves the use of

working drawings. Working drawings are preliminary skills of practical geometry which is necessary before the varied work of carpentry and joinery can be successfully undertaken; the need for skill acquisition is inevitable (Okoro, 2006) through colleges of education.

Colleges of Education aim at providing students with knowledge, attitude, and skills leading to gainful employment in the teaching profession and the world of work (FGN, 2004). The institutions that provide technical education in Nigeria include, Technical Colleges, Colleges of Education (Technical), Polytechnics, and Universities. They give full training intended to prepare students for entry into various occupations (Okoro, 2006). Delmar (2006) stated that woodwork requires technical skills from students for good performance in areas, such as how to use and maintain hand and power tools on given job.

Motivation as defined by Offorma (2012), is a condition which initiates, guide and maintains behaviors until some goal is reached.Ngwoke (2004) described motivation as the internal state or mental and psychological state in an individual which compels energizes, sustains and directs the individuals activity towards a goal. Motivation is a psychological construct to explain purposive or goal-directed behavior in human beings. Motivation in this study is an attempt aimed towards imitation, arousal, energizing, and sustenance of interest in woodwork teachers to engage in and remain in-service train, or retrain in large scale practical project woodwork

In-service training is a training programme aimed at improving the teacher. Therefore, woodwork teachers with varying qualification, knowledge and skills need to update their knowledge and skills through regular training, in order not to be obsolete. This informed the introduction of Technical Teachers Training Programme (TTTP). The programme was principally designed for improvement of technical teachers' knowledge and skills. Unfortunately, this programme was conceived without first identifying the needs of the teacher (Oranu, in Sowande, 2001). In other words, there is need to first find out the areas

the teachers lack required strategy and need for improvement in their performance before embarking on any training or re-training of technical teachers.

Teachers' ability to use a variety of instructional materials and a combination of teaching methods and the ability to manage group learning is at the core of practical projects. This means that the teacher understands the need for careful preparation of lessons and schedules and that he/she able to organize teaching and learning around a variety of learning modes such as individual and group learning materials and teacher support services are critical to success in teaching and learning at this level of schooling. Practical projects apart from services to area that are thinly populated, also help to create educational opportunities for students by bringing college closer to home and meeting the needs of communities. Many of today's on-the-job injuries result from the improper use of hand tools. Workers have lost their eyesight and had their vision impaired, tendons severed, bones broken, and arms, legs and fingers infected through puncture wounds, all because of unsafe practices with hand tools or use of tools poorly designed for the specific job. There is no set of established codes concerning the proper use of hand tools and power hand tools, It is necessary for woodwork teacher or instructor to stress the seriousness of using hand tools because the used of tools in woodwork is inevitable (Rix, Haas, &Teixeira, 2008). Therefore, woodwork students have to be taught proper skills of handling woodwork tools.

Practical projects in woodwork can be taught with the use instructional materials on how to handle woodwork hand tools. Although, most colleges don't have modern instructional equipments and media, this is why above 90% of technical teachers in Nigeria are mostly using the chalkboard and textbook method which is regarded as traditional method in teaching and learning process(Shuaibu, 2007). Some teachers are not all that capable to operate machines and available equipment, so the few colleges that have them are unable to use them effectively, which will results to inability of the teachers to put across the concepts to the students. This could contribute to poor performance of students in practical projects.

Students in woodwork need to acquire skills in order to be employable in woodwork establishments.Such skills in woodwork would assist the student in employment. According to Barlaw (2001), employability prospects of woodwork graduate depends largely on the acquired work skills whether in self or paid employment. However, Bukar (1994) noted that process of skill acquisition and development, as it cuts across the three domains of educational objectives is cumbersome, tedious, and time consuming. This calls for enormous skills from teacher of practical based course like woodwork especially in Colleges of Education (Technical).

Strategy is planned series of actions for achieving something. According to Egbita (2006), instructional strategies are decisions about organizing people, materials and ideas to provide learning. Also, Hamza (2010) posited that strategy teaching requires comprehensive instruction that include attention to promote knowledge (what to do), procedural knowledge (how to do it) as conditional knowledge (when and why to do it) as a coherent and substantiated logic for making one set of choices rather than other. Operationally, strategy is the total pattern of decision, which shapes the long-term capabilities to the overall strategy. Strategy is the reconciliation of technical requirements with operational resources (Umar, 2010).

The ultimate and successful test of a good technical education programme is not how much factual information students can remember, but what technical skill they possess or perform in their technical fields of employment (Okoro, 2006). There is urgent need to re-strategize the quality of the graduates of woodwork in order to reach this aim, practical project. The fundamental ingredient of woodwork practical project is skill development and subsequently, the need for it to be improved upon. The skill improvement strategy when developed, is therefore utilitarian. According to Abimbola (2007), skills are not just acquired in vacuum; they are rather developed in a workshop or laboratory that is replete with the

latest facilities and necessary materials. In line with this, acquisition of skill in practical work is essential (Ikpeamaonwu, 1991).

The state of any nation's economy depends on the quality of skills its workers acquired. FGN (2004) stipulated the needs to prepare future citizens for useful and productive lives through the acquisition of appropriate practical skills required as craftsman and technician sub-professional level. To achieve this objective, it does not only require human resources, but also requires material, tools, equipment and skills. Skills are not acquired in a vacuum, in other to enhance standard and quality, proper instructional material must be available which forms the greatest aspect of skill acquisition (Beck, 1994). Offorma (2010) stressed that the success of an educational programmeis largely dependent on the quality of its teachers. Re-training of woodwork teachers to meet the current technological needs of the society is essential. According to Abdullahi (2010), teachers should be trained not once or twice, but on continuous basis to make them up to date to stand the rapid changes in the technological world.

Woodwork students from College of Education in the North-West geo-political zone are not properly skilled in practical, hence the study.In the midst of other factors that lead to poor performance of Colleges of Education (Technical) students, the competence of the teachers must be outstanding. As the saying goes, no education system can rise above the quality of its teachers. This becomes necessary to identify the strategies for improving the woodwork teachers in woodwork practical project in the North West zone of Nigeria.

Statement of the Problem

Today's world of technology depends largely on high skilled manpower for productivity. Colleges of education (Technical) have major role to play in the production of this competent manpower for wood industries. It is expected that graduates should posses skills which will enable them perform in their areas of discipline. Osuala (2001) observed

that the skilled job opportunities in industries are not filled up. Oranu (2001) stated that Colleges of Education (Technical) products are weak in practice of their trades.

Many Colleges of Education graduates especially those in woodwork are jobless. They are jobless not because of the absence of the job opportunities but because they are not skilled enough to take up the available teaching and industrial jobs (Osuala, 2001). In extension, this means the graduates of Colleges of Education are not competent to take up available employment. UNEVOC (2007) expressed that majority of graduate of woodwork in developing countries are not self-reliant due to incompetence reason not far away from poor practical project orientation.

Unfortunately, despite all effort by government to ensure qualitative education at the Colleges of Education (Technical) and bring about high competent products both in academic and employability, there have been persistent reports of high failure rate among students (FGN, 2001; NCCE, 2009). One probable cause of the high failure of the students in recent years according to NCCE (2010) Chief Accreditation Community Report is partly due to poor performance in practical by the students. Abdullahi (2010) attributed students' lack of practical skills necessary to develop and manage their career lives to the growing gap that exist between students school experiences and the real world of work. The problem of this study therefore is to determine strategies for improving practical projects in woodwork so as to produce skilled craftsmen and technicians in woodworks to train technical teachers for secondary schools and technical colleges.

Purpose of the Study

The major purpose of the study therefore is to determine the strategy for improving practical project in woodwork in Colleges of Education (Technical) in Northwestern states of Nigeria. Specifically, the study will determine:

1. In-service training needs for improving practical projects
2. The need motivation of teachers as means for improving practical projects

3. Instructional materials for improving practical projects
4. Teaching techniques for improving the use of hand and machine tools

Significance of the Study

The findings of the study will be beneficial to the ministry of education and researcher, wood industries, curriculum planners, technical education teachers, student and the society at large. The findings of this study will be beneficial to the Ministry of Education. They can use the result of the study to organize training workshop and seminar for woodwork teachers in order to update their skills and knowledge in woodwork. The ministries will also use the findings of the study to employ teachers, for instance using the woodwork teacher for Colleges of Education (Technical).

The findings of the study will be beneficial to wood industries where College of Education (Technical) graduates seek for employment upon graduation. Woodwork graduates will be better equipped with practical skills to perform more effectively in tier various jobs and assignment in the industries. This will also help the industries minimize the huge financial expenditure on retraining of Colleges of Education (Technical) graduates upon employment.

The findings of the study will provide suitable information that will aid at objective planning and successful curriculum, beneficial to curriculum planners and training institutions. In that this institution will be able to incorporate the aspect of teacher competency required, as identified practical project skill in the curriculum. The findings will help the curriculum planner aimed at persuading woodwork teachers, technicians to improve practical project practice as well as develop practical skills, knowledge and attitude favorable to change in woodwork today.

The findings will be beneficial to technical education teacher; it will improve the quality of skills needed in practical education providing employment to vocational programme.

The findings of the study will be beneficial to woodwork teachers because if the quality required of these teachers are upgraded through in-service training with the findings of this study, the teachers will use the new knowledge to teach practical better to students. This invariably will motivate the students to learn and also give the teacher's job satisfaction.

The findings of the study will be beneficial to students because when the woodwork teachers are well equipped with the practical knowledge required, students will be instilled in the proper knowledge. The students will therefore learn better and be able to work more effectively due to improved skill acquisition. If this is achieved, parents will also be happy because they will see value in their efforts.

The society will also benefit from the findings of the study because when students graduate with expected skills, they will reduce the problem of quack woodwork technical teachers, thereby, offering good services to the society. This will go a long way in achieving the much-needed technological development in Nigeria.

Research Questions

This study is guided by the following research questions:

1. What are the in-service training needs of teachers needed for improving practical projects in woodwork?
2. How can motivation of teacher improve practical projects in woodwork?
3. How can instructional materials improve practical projects in woodwork?
4. What are the teaching techniques that will improve the use of hand and machine?

Hypotheses

The following null hypotheses formulated to guide this study and is tested at 0.5 level of significance.

Ho_1: There is no significant difference in the mean responses of instructors and lecturers on the need teacher for in-service training to improve practical projects.

Ho_2: There is no significant difference in the mean responses of instructors and lecturers on the need for motivation of teachers as a means of improving practical projects.

Ho_3: There is no significant difference in the mean responses of instructors and lecturers on instructional materials for improving practical projects.

Ho_4: There is no significant difference in the mean responses of instructors and lecturers on the teaching techniques for tools handling to improve practical project.

Scope of the Study

The study is delimited to improving practical projects in work through in-service training, motivation, instructional materials and use of hand and machine tools in woodwork. It is delimited to woodwork lecturers and instructors in North-western states of Nigerian on strategies for improving other aspect of woodwork like theoretical are not covered by the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter is reviewed under the following sub-headings:-

1. Conceptual Framework

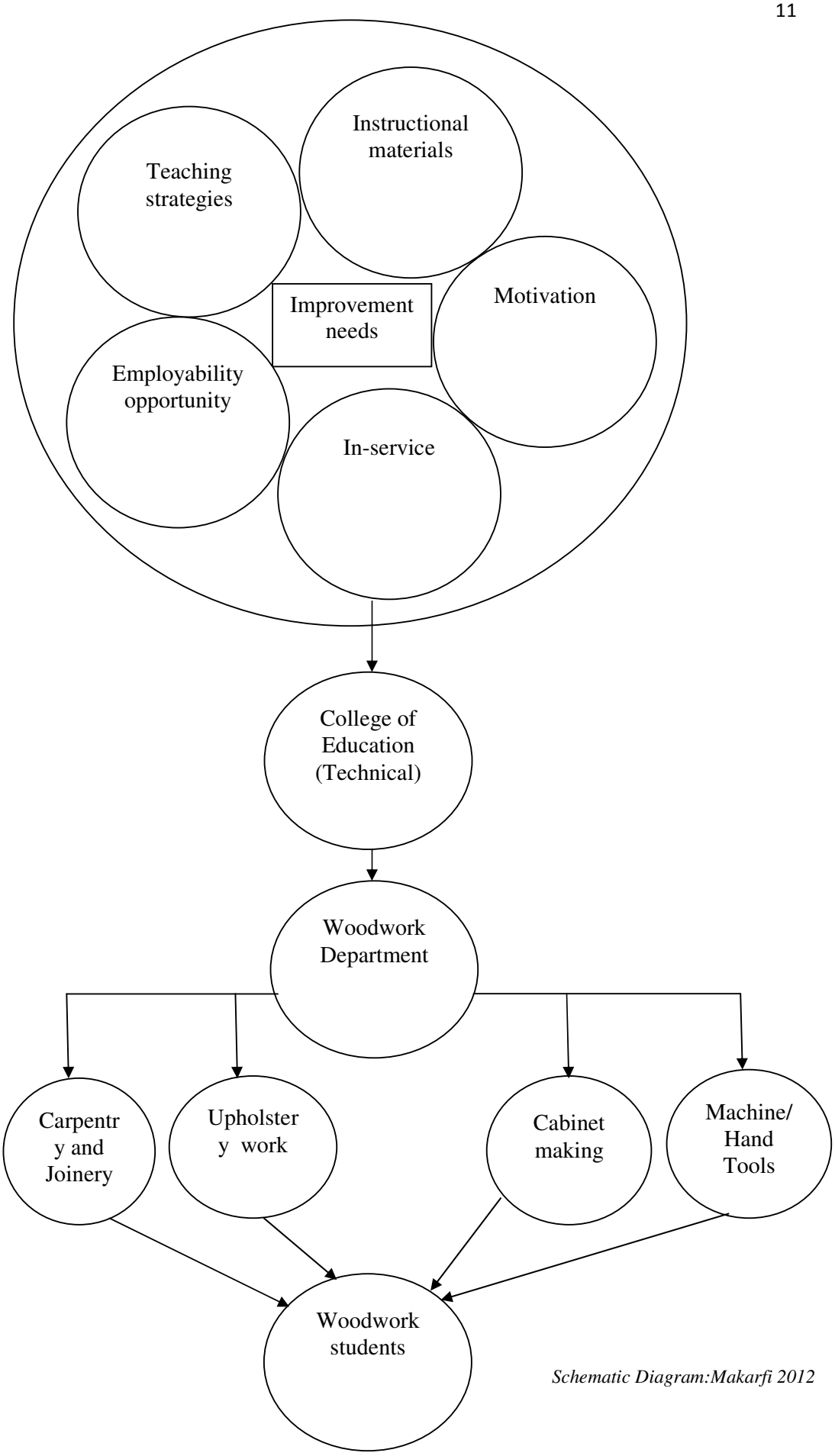
- Colleges of Education (Technical) in Nigeria Education System
- Practical Projects in Woodwork in Colleges of Education (Technical)
- In-service Training as strategy for improving Practical Projects in Woodwork
- Motivation as means of Improving Practical Projects in Woodwork
- Instructional Material for Improving Practical Projects in Woodwork
- Teaching Techniques for improving Handling Woodwork Hand and Machine Tools

2. Theoretical Framework

- Theory of Performance
- Social Cognitive Career Theory (SCT)
- Theory of Skill Development (TSD)

3. Review of Related Empirical Studies

4. Summary of Review of Related Literature



Schematic Diagram:Makarfi 2012

Conceptual Framework

Colleges of Education (Technical) in Nigeria Education System

College of Education (COE) is the third category of higher or tertiary education system in Nigeria, after Primary and Secondary education. The higher or tertiary education comprises collectively the Colleges of Education, the Mono/Polytechnics and the Universities. College of Education is a higher education institution recognized by law to award the professional teacher's certificate, Nigerian Certificate in Education (NCE). The Nigerian Certificate in Education (NCE) is a professional teacher's certificate awarded by a college of education (or its equivalent). It is the minimum certificate that qualifies one to teach in the country. Some of these colleges are also accredited to award bachelor's degree in education and education based courses (UNESCO, 2011). There are bodies recognized by law and charged with the responsibilities of issuing approvals for the commencement of higher education institutions and for the accreditation and re-accreditation of academic programmes run by such higher education institutions. National Commission for Colleges of Education (NCCE) is the accreditation and regulatory body for colleges of education.

Colleges of Education (Technical) is different from conventional college of education because they are established by the Federal Government of Nigeria to prepare individuals to acquire practical skills, basic and scientific knowledge and pedagogical skills needed to teach technical and vocational subjects in secondary school in order to achieve the goals of technical education, which shall be to:

i. Provide trained manpower in the applied sciences, technology and business particularly at craft, advance craft and technical levels.
ii. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development.
iii. Give training and impart the necessary skills to individual who shall be self-reliant

economically.

In pursuance of the above goals, FRN (2004) enumerated that:

(a) the main features of the curriculum activities for technical college shall be structured in foundation and trade modules.

(b) the components are general education, theory and related courses; workshop practice and industrial training/production work.

Colleges of Education (Technical) provide technical training in a number of courses, which include Automobile Mechanics, Welding and Fabrication, Plumbing, Electrical/ Electronics, Painting, Furniture Making, Machine Wood-working, Carpentry and Joinery, and Building.

Practical Projects in Woodwork in Colleges of Education (Technical)

Practical project method is a process which enables learners acquire wholehearted purposes and to pursue them to a satisfactory end. Onwuka in Omeje (2004) stressed that practical project makes school work real, uses students experiences, motivates natural interest, carries the students forward in clearly defined terms, minimized the chances of waste of time, and emphasizes creativeness. The construction of a project requires the students to apply the knowledge and skills he has learnt in the course (Okoro, 1999). Practical project always begin from a theory or another empirical study and look for a way of personalizing it (Barnyard and Grayson, 2000). Practical project offers students the opportunity to choose what problems to tackle and brings practical orientation to student, evokes or stimulate their creative potentials and thus improve the teaching-learning process (Omeje, 2004).

Practical project is an excellent means of fostering cooperation among learners since they engage themselves in the process of problem solving and rational thinking. Practical projects allow students to acquire learning experience. Learning experiences are the problems to be solved by students and the work of the teacher is to guide and advice the students

(Uzoagulu, 1998). Nwachukwu (2001) highlighted four steps in the teaching of practical projects. These include purpose, planning, execution and evaluation.

Before introducing practical projects to technical students, the following areas should be discussed and learnt: safety precautions, new technical terms, care of tools and machines, quality requirements with respect to the finish, limitation, and time available and expected competencies after the practical project (Omeje, 2004). Hence, according to Nwachukwu (2001), practical projects should be selected based on the following criteria:

- Instructional objectives, which may be cognitive, affective and psychomotor
- Age, interest, level and background of learners
- Availability of the selected teaching aids
- Teacher's capability
- Cost and maintenance
- Technical quality
- Government support
- Infrastructural amenities such as electricity gas and pipe borne water

Practical project may be individual or group-based depending on the stated curriculum objectives. In any case, the individual or group must exercise himself or themselves in logical steps of activities. This may involve:

- Designing the project on drawing board
- Selection of necessary materials
- Forming of shaped parts
- Finishing of the project to the expected standard
- Test-trial of the project where applicable
- Documentation of the project

A career in woodwork practice present a great choice for good wages and high satisfaction associated with doing complicated work in wood practice. Woodwork trade worker maintains repairs and adjust wood equipment. Colleges of Education (Technical) graduates of woodwork that have been trained with excellent technical foundation in practical skills will have good job opportunities.

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 (Ali, 1998). 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, 2004) 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 Usoro and Ogbuanya (2009) 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.

Staff development in terms of continuing education appears rather very poor, haphazard, politicized and lack continuity. Ndirangu (2011) asserted that teachers need to be retrained two to six times in lifetime to keep abreast with changes in their profession. The

initial attempt by the federal government of Nigeria to retrain technical teachers was a failure because such teachers under Technical Teachers Training Programme (TTTP) never came back for addition training and even those that came back settled on greener pasture.

Training given to individuals in any formal organization is very important. Training will help the individual to be equipped with the capacity to organize, plan or set goals and execute the necessary programmes in the society and to achieve the desired results. The future of educational and technological development of Nigeria depends on the quality of teachers, because they teach the students who are expected to be productive workers and leaders of tomorrow (Tayo, Ajibade and Ojedokun, 2009). These technological education teachers need to be effective and efficient in order to teach students well. Stressing the importance of training, Fafunwa (1995) remarked that the qualities of all other professions are influenced by the caliber of teachers because adequate training cannot take place without competent teachers. Muhammed (1991) stated that technological education teachers may need in-service training in some aspects of technical education curriculum because of the dynamic nature of technological education. This requires that teachers be exposed to new methodologies and curriculum, innovation in their area of specialization during the course of their in-service training programmed.

In-service training will enable the teachers to overcome the areas of inadequacies in terms of curriculum changes and innovation. Retraining means receiving in-service education, it implies subjective or exposing an individual to further teaching and practice after the initial training, it may also be taken as improving the teacher. The avenues for retraining woodwork technology education teachers according to Ekunke (2008) include: Attending and participating actively in seminars, conference and workshops; belonging to some professional associations where the teachers can meet with experienced colleagues to exchange ideas and talk about new happening and development (innovation) in teaching and

professional teachers' education. This main purpose of retraining of technology teachers is to improve their qualities, expertise, competence, efficiency and effectiveness.

Motivation as Meansfor 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.

All human behaviour appears to arise in response to some form of internal (physiological) or external (environmental) stimulation. The behaviors, however, are not random. They often involve some purpose or goal. It is often held that behaviors take place as

a result of the arousal of certain motives. Thus motivation can be defined as the process of activating, maintaining and directing behavior towards a particular goal (Rost, 2006). The process is usually terminated once the desired goals are attained by the person.

While thinking about motivation we often try to locate its source whether it is internal to the person or external to him or her. Undertaking a given task may be motivated by promise of a prize or some other kind of gain which is external to the task(Rost, 2006). Thus, the task is instrumental in receiving or gaining access to the external reward. In all such situations the locus of control is external to the person who is asked to undertake the activity. Such situations characterize the kind of motivation which is extrinsic. On the other hand, we have situations in which the source of motivation lies inside the task. In such cases we work because the task itself is interesting and does not require any external source of motivation. Rost(2006) expressed that the task is not instrumental in obtaining any external reward. The locus of control is inside the person. Person's involvement in the task is spontaneous and the task itself acts as its own reward. This situation represents intrinsic motivation such as a child's play, reading an interesting novel, writing a poem or a story.

It has been found that intrinsic motivation leads to high quality of work, meeting challenges, and pursuit of excellence. Infact attachment with outcome often distracts the process or activity. This is why Indian thinkers realized the significance of nonattachment (Anasakti). It is the action which is important and on which we have control and therefore we need to focus more and more on the action without bothering much about the outcome of action. In the modern life extrinsic rewards are being emphasized more and more and everything is becoming contractual.The exchange relationships are becoming central. This situation is creating many problems in personal and social lives of the people. It is therefore important to plan activities and organize relationships in such a manner that the task remains in the center of interest.

Motivated people are those who have made a conscious decision to devote considerable effort to achieving something that they value. What they value will differ greatly from one individual to another. 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 facilities 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.

These recommendations support the idea that the construction of a new workshop or remodeling of an existing one will involve a thorough analysis of the course, the students need for the programme and ways of reaching reasonable competence in manipulative skills. Acquiring competence in skill training is one of the most essential activities of the school workshop. Equipping a workshop with adequate activities remained paramount in the contribution, this provision could be accomplished through compliance to various recommendations by organization that create standard (Boyi, 2008). The National Commission of Education (NCCE, 2009) recommended a specified number of each of the tools, equipment and machinery for a specified number of student intended for admission in an academic year for engineering and industrial technical education programme in colleges of education (technical). This recommendation by the NCCE means that such facilities should be given consideration in the initial planning of the course programme. The NCCE also emphasized that a provision of these facilities less than the number specified in any of the colleges (technical), Nigeria would be classified as inadequate. Oranu (2006) recommended proper planning which will give early consideration to the provision of tools and equipment. This provide mean s that the entire process of planning a course programme will be include at what stages, who and when these facilities are going to be employed.

Non-use of adequate planning and physical facilities in the technical education workshop could be comparable to the informal type of trade and skill training. Considering this call for the use of adequate and functional physical facilities, Prosser and Quigley in Okoro (2003) presented a number of principles which they developed that had substantial influence on the administration of vocational and technical education. These principles which Okoro said are still useful till date to any specified that there are minimum standards which effective technical and vocational education cannot be offered.

Mkpa (2000:120) suggests innovations in the in-service programmes in Nigeria to include:

i. Mentoring: This is strategy in which highly experienced teachers in a school are assigned a number of less-experienced ones to serve as their mentors or professional guides. This is like the Peer In-Service Approach (PISA) which is a self-help in-service approach that drastically reduces the cost of financing training programmes for teachers within local government areas. Thus, the expertise of good/experienced teachers is utilized to up-date other teachers in neighbouring schools in the same area (UNESCO, 1997:30-31).

ii. Peer-Tutoring: A colleague approaches the other to obtain or seek professional assistance or guide on any aspect of his/her discipline where he/she is defective. In this way, the area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally.

iii. Subject Lead-Teacher Approach: A Senior Teacher of the same subject leads the other teachers, overseeing all curricular programmes associated with that subject.

Hainsaw (2012) expressed that instructional materials are kind of tools or equipments that can help effectively the instructor in theory teaching classroom or in practical assessment. These are materials that are used to aid in the transference of information from one to another. For example, a teacher may use instructional materials to aid in the learning of subject matter for a class. These instructional materials could include: power point presentations (visual aids), books, worksheets, samples of items about to be taught, pictures, articles and materials for project development. Hainsaw stated further that in other to improve teaching, teacher must plan for the kind of instructional material to use, prepare all important equipment to use, and make instructional materials neatly and completely.

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 academics 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 mini-lesson. 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

The implementations of vocational pedagogy in vocational teacher education programme based on the instructional strategy which will produce vocational teachers that can teach vocational subject in simulated and realistic work settings. Ndirangu (2011) elucidated that vocational and technical education learning environment make provision for student development of knowledge manipulative skills, attitudes and values as well as the integration of these areas and their application to simulated and realistic work stetting. This

instructional strategy, by some people is called “teaching industry”, “teaching factory”, and “teaching business”.

Diaz and Bontenbal (2003) highlighted some principles of technical pedagogy as are as follows:

1. The main orientation is the needs of world of work (work-based learning).
2. The most important is the application of pedagogical theories in the school (school-based learning).
3. The application of mastery learning.
4. The application of instructional new paradigm.
5. The application of an instructional approach “learning how to learn”.
6. The use of inquiry, discovery and problem solving approaches in teaching and learning process.

Instructional Design

The objective of the course special teaching method course is a compulsory course to take by student of the vocational and technical teacher-training programme in Indonesia. The aim of the course is to prepare student to teach certain courses in shier subject area of the vocation and technical education curriculum. The special teaching method is the application of general teaching method to a specific field of study, for instance, special teaching method for woodwork under building construction department. The course consists of two main parts: first, the instructional design for vocation education subjects and second, teaching practice which is called micro teaching and mini lesson. The instructional design for vocational education subject covers some topics such as instructional analysis syllabus, lesson plan, skill analysis, job sheet and student evaluation. The general objective of this part of the course is “the student will be able to prepare a lesson that he/she is going to teach”. In order to master this objective, the students have to do exercise to practice each topic of the instructional design. A brief description of the course content will be presented here. If might

be useful to be discussed with any counter part(s). The special teaching method course should be delivered in a certain way which is stated by short explanation of concepts and principles of the topic being studied follow by some examples and students exercises. Students should have to do a lot of what student have done. So, the delivery system of this course is a kind of a work shop which his done by student, motivation is educational technology have produce a lot of new teaching strategies and methods which school teachers should master and use in teaching (Miller and Miller, 1999).

Teaching strategies such as student centered instruction, student active learning, learning how to learn and contextual teaching and learning (CTL) and methods of teaching such as individualized instruction e-learning/web based learning, cooperative learning, collaborative learning multimedia instruction, problem based instruction and quantum teaching and quantum learning are necessary to be studied by students of technical teacher training institutions. It is important for prospective teachers to acquire concepts, principles and procedures of each of the strategies and or the methods and use them in teaching practice. How the students can be taught about these knowledge and skills if the lecturer does not master those materials? It is a very big challenge for lecturer of technical teacher institutions.

The new teaching strategy in this context embraces teaching methods such as audio visual techniques as a method of communication. teaching materials such as films, transparencies, television programmes and teaching equipment such as projectors, television sets, computer and its different accessories. often items, either the teaching method or teaching materials or the teaching equipment are criticized by parents, government, teachers and learns, especially when the goals and objectives of the technical education system are not achieved. The achievement of the technical education systems objectives is determined by the employability of the products of such systems (Aturu, 2011). The new roles have been added to the teachers' roles and that have increased the teacher's responsibilities.

Christensen (2011) Most diverse learning needs can be met in the general classroom when two guidelines are kept in mind by the classroom teacher:

(1) Student performance is the result of interaction between the student and the instructional environment, and

(2) Teachers can reasonably accommodate most student needs after analyzing student learning needs and the demands of the instructional environment. In fact, the adaptations made for a specific student's learning needs may be beneficial to many other students in the same classroom. Adaptations are simply good teaching techniques put to use.

Handling Hand and Machine Tools

Many of today's on-the-job injuries result from the improper use of hand tools. Workers have lost their eyesight and had their vision impaired, tendons severed, bones broken, and arms, legs and fingers infected through puncture wounds, all because of unsafe practices with hand tools or use of tools poorly designed for the specific job. There is no set of established codes concerning the proper use of hand tools. Because guards are not built into hand tools like they are on power hand tools, workers must be especially aware of safety precautions to prevent injuries. It is necessary for training instructors to stress the seriousness of using hand tools.

The right tool is the safe tool

An accident-free shop begins when workers adhere to the rule of using the proper tools for jobs. When used properly, the right tool is the safe tool. Safety must be an integral part of every trade training activity. Students learn why safety is so important through clear instructions and by performing tasks that require certain skills and knowledge. No matter how mechanized an industry becomes, plant operations will still depend on hand tools. It is extremely important that workers who use hand tools are properly trained. Do not assume workers automatically know how to use them correctly. They must know how to use tools safely and understand why certain procedures are safer than others.

Begin with hand tool training

An ideal beginning for any safety program is basic safety training in the use of hand tools. As a result, safety awareness will likely reach all areas of the plant. Trainees in skilled trades must realize why emphasis is placed on the safe use of hand tools. They also need to receive experience guidance and instruction in safe practices.

The safe use of hand tools

All department heads should be familiar with the talent and skill of the workers and enforce the rules regarding safe handling of hand tools. Department heads should also provide special instruction and guidance for the worker if necessary. Such training will increase the safety of workers who use hand tools. There is only one safe way to use hand tools, although there are special tools for almost every craft. Keep in mind that there are many ergonomically designed tools available today. The following list consists of tools most commonly used in metalworking and woodworking industries. These tools also can be the most harmful if improperly used.

Chisels

In most cases, you can determine the safety of a hand tool by the condition of its cutting and striking ends, particularly in the case of edges and pointed tools, such as cold chisels. A cold chisel with a mushroomed head (rounded over into sharp, thin edges by the repeated pounding of a hammer) is a common cause of injury to the worker. When a mushroomed head is pounded, chips may be knocked off the damaged head and fly into the eyes of the worker. Redress mushroomed heads on all hand tools. Grind down the damaged end and then reform it with the use of an abrasive wheel. In the redressing process, a beveled edge will enable it to stand up under more pounding.

Cold chisels

An inadequate cold chisel will buckle or spring if the proper size and strength are not used for the metal being cut. Hold the chisel lightly in the hollow of the hand with palm up,

supported by the thumb and first two fingers. If the hammer glances, it will strike the soft palm rather than the knuckles. When using larger chisels that require a fist hold, use a cushion for hand protection. When shearing with a cold chisel, hold the tool at an angle, which permits one bevel of the cutting edge to ride flat against the shearing plane. Wear safety glasses when chipping or shearing with a cold chisel. Protect people in the immediate area with a shield or screen.

Wood chisels

Always drive a wood chisel by hand in an outward direction, away from the body. Before using a wood chisel, remove nails and metal (such as corrugated fastener) from the piece of work, or drive them into the material. Otherwise, chips will fly off the imbedded metal or off the chisel itself. Avoid any type of prying or wedging with a chisel because it can cause the steel to snap. Protect the sharp edges of chisels and store them in a rack, workbench or slotted section of a tool box. Safety hazards result if workers leave chisels on shelves or bench tops where they can roll off.

Crowbars

Use the correct size crowbar for each job. Do not use makeshift tools (cheaters) such as pipe lengths, iron bars or extensions for leverage. To prevent slips, place a block of wood under the head of the crowbar.

Cutters

Use heavy duty cutters when cutting heavy wire or reinforcing wire, bolts or strapping. It is unsafe to overload a light tool. Apply force at a right angle to the cutting edge, not at a slant. Never use cutters near live electrical circuits. When using cutters, always wear safety glasses. Never use claw hammers, crowbars or other pry tools to snap metal bands; use cutters and keep a gloved hand over the end that is likely to fly. When using cutters on bolts or reinforcing rods, hold the portion to be cut in one hand or cover it with a glove to keep it from flying. Never tamper with the adjustment on the cutter jaws. Make adjustments only at

the tool crib or let the manufacturer make them. In the hands of the untrained, alterations in the operation of cutters may result in improper clearance, which can cause the tool to bind, crack or break its jaws. Serious injury to the user is also possible.

Files

When using a file, have secure footing before applying pressure. Grasp the file with one hand and guide the point of the file with the thumb and forefinger of the other hand. Use a vice to secure the material you are filing, and position the work piece to avoid awkward filing postures. Use an offset handle if it is available. Clean files require less force. The proper way to clean a file is with a file card; never strike it against another piece of metal because steel particles can fly off. Use the file in an approved handle.

Hacksaws

Apply pressure on the downward stroke only. After the forward pressure stroke, slightly lift the saw and lightly pull it back in the cut to protect the teeth. Twisting the blade or applying too much pressure may break the blade and result in hard or arm injuries. Cutting too fast with a hacksaw will heat up the blade, untemper it and cause it to snap. Light machine oil or lubricants protect the blade against mishaps and help the hacksaw cut more efficiently.

Hammers

Take special care in selecting the correct type of hammer handle when replacements are made; each type of hammer head has a specific type of handle. Wedge the handle securely in the head and make sure it is free of splinters and cracks. Never strike hardened steel surfaces with a steel hammer. Use a soft metal hammer or one with a plastic, wood or rawhide head. Always wear safety glasses to protect the eyes from flying chips, nail heads or scale. Carefully inspect sledge hammers at regular intervals for split handles and loose or chipped heads. Selecting the right hammer for the job is important. Use riveting hammers for

sheet steel, carpenter or claw hammers for driving and drawing nails, and ball-peen hammers for metal work.

Hatchets

When working with a hatchet, strike the wood lightly with the blade and then force the blade through by striking the wood against a solid object. Do not strike hard metal surfaces with the hammer end of the hatchet because the hardened head may chip or split. To avoid injuries to others, allow a sufficient amount of space to swing the hatchet.

Planes

Store all planes in a rack designed to protect the cutting edges from damage and workers from injuries. Always keep the cutting edge sharp. Hold material being planed securely in a vise, clamp or other holding device.

Hand-tool storage

Periodic safety inspections of infrequently used hand tools are necessary. Mark such tools with the company's seal or name. Store them in the tool cribs of the departments where they are used or other proper places. Set up records to cover tool repairing, replacement, checking and inventory. Inspect them at specific times on a continuous basis. Neglected tools can cause serious injury. Provide tool bins and racks at the tool crib for each kind of hand tool owned by the company. Train the person who is responsible for the tool crib in safe and proper tool placement. Protection against possible accidental contact with sharp-edged tools is important. Check the condition of the tool storage area regularly. Make sure that tools are stored properly. Hand tools that are not stored properly often cause tripping or jabbing injuries. They can topple from an overhead storage shelf and strike a worker. Many companies use a color-coding system to maintain better hand-tool control. Specific tools are color-coded to match the color of the machine or equipment on which they are used. This system reduces the chance of these special tools being carried into other departments of the plant, where mishandling might occur. Never place a tool box on the end of a bench where a

person can knock onto a worker's feet. Also, it does not belong in an aisleway where another person may trip. If you must place a tool box on a workbench, use a rail to protect it against its being pushed off. Inspect tool belts regularly for the condition of material, supporting strength for the tools carried, and ability to protect tools from damage. Make sure the belt is with the necessary pouches of sufficient depth to hold the tools firmly. The tools, however, should protrude enough at the top to allow the worker to get a firm grip before removing them for use. Wear tool belts so that the tools hang at the side, hip-high. If the worker should fall, this provides protection against severe back and spine injures.

Hand-tool maintenance

A provision for a tool maintenance procedure is one of the most essential factors in any hand tool safety program. Extensively used hand tools require careful and frequent inspection to maintain their safe use. When hand tools are not sharpened and dressed properly, injuries are often caused through inefficient cutting and glancing off the material being worked. Straighten bent shafts, replace broken handles, and discard tools that you cannot repair. A tool's handle is often the cause of a worker's inefficiency and unsafe practices. If the handle is splintered, too short, loose-fitting or otherwise poorly affixed to the tool, the worker who uses it is exposed to possible injury. The worker should know how to tighten loose handles by rewedging the end of the handle that sticks through the head of the tool. Remove any hand tool with a defective handle from service immediately. Use a file rather than an abrasive wheel when dressing the tips of screwdrivers. The file will draw less temper from the screwdriver tip. Loss of temper in a screwdriver soon results in a damaged tool and possible injury to the worker using it. A hand tool that is not properly dressed and reconditioned can be hazardous. Set up definite procedures in the safe maintenance of hand tools and establish wear, frequency of use and inspection guide limits. An efficient tool safety program requires periodic inspections of all operations involving hand tools. Inspect the tool

supply room at specific times and keep an inventory. Enforce all planned procedures and rules involving hand tool safety to reduce injuries.

Hand Tool Skills

In this golden age of electric-powered machinery, knowing the basics of handsaws, planes, chisels, and measuring and marking tools is an essential skill set that can add quality and personality to your work. However, using hand tools takes practice and patience, and there are a number of tips and techniques to help you through the learning process.

Using chisels

The chisel is a versatile tool that can be quickly remove big chunks of wood or delicately pare away thin shavings. Chisels are essential for cutting and fitting hand-cut joinery. They also come in handy for many other tasks in the shop, from removing excess glue to trimming pegs and pins. Chisels vary in type depending on the work you are doing. Some have long, thin blades (ideal for delicate paring), while others feature short, stout blades designed to hog out waste and survive a heavy mallet blow.

Using hand planes

For hundreds of years, woodworkers have used the hand plane to prepare stock and furniture parts, and it still excels at preparing a finished surface. A hand plane is essentially a reference edge (sole) that guides a blade (iron) across a surface or edge. The wide variety of plane types available illustrates the variety of surfaces and profiles that a plane will cut. For example, a shoulder plane will trim a fat tenon or cut a rabbet into the edge of a board; a compass plane will smooth a curved surface; and a bench plane can produce a flat surface on a 10-ft. piece of rough lumber. Knowing how to use a hand plane also means knowing how to sharpen it and tune it up.

Using handsaws

Handsaws range in size from the cylinder-handled gent's saw, up to the dovetail saw, the tenon saw, and the panel saw. In addition to size and handle variations, handsaws differ in

how their teeth are set. Crosscut saws feature an alternating tooth pattern that scores the wood as it cuts, while ripsaws have all their teeth in a line. The Japanese saw, used for similar tasks as the aforementioned Western-style saws, cuts on the pull stroke rather than the push stroke. Cutting straight and with control is a skill that comes with practice; unless you've mastered the technique, practice on scrap wood before you cut into the real thing.

Marking and layout

Hand-cut joinery relies on proper measuring and marking tools. Guiding a saw by hand, for instance, requires that you first scribe a line to follow. In addition to guiding you through a procedure, scribe lines can reduce potential tearout by cutting the wood fibers at the surface and preventing a blade from wandering off course. This and other marking tasks can be accomplished with a basic set of measuring and marking tools: a tape measure or rule, a square, a marking gauge, and a marking knife. There are scores of other tools to choose from as you expand your repertoire of techniques.

The right time for hand tools

Many of the tasks traditionally accomplished exclusively with hand tools can be completed much more efficiently and quickly with power tools. The router alone has shaved hours off tedious edging and trimming operations. However, hand-tool skills can be a great complement to modern technology. Sometimes there is no faster option than using a backsaw to trim a tenon or a chisel to remove a clogged mortise. Other times, using a hand tool to complete an operation is just more enjoyable than setting up power tools

Theoretical Framework

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 (2002) 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.

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 being 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 are 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 nstudent'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, neighbour and peer network in order to support their vocational goals.

In summary, interventionstrategies 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

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.

Review of Related Empirical Studies

Ali (1998) conducted a study on mechanism for improving practical project in woodwork in polytechnic and colleges of education (technical) in North-East zone of Nigeria. It specifically determined the techniques employed by woodwork technology teacher in conducting woodwork practical project instruction. The extent of involvement of these teachers in student woodwork practical projects, the techniques used by woodwork students in carrying out woodwork practical precuts, the difficulties encountered by the students in these practical projects, the possible techniques which woodwork technology teachers would

employ to effectively carryout woodwork practical projects. Instruction and possible techniques which students would use to effectively carryout woodwork practical projects. Two set of questionnaire were the instrument used for data collection, the population was made up of 85 respondents comprising 31 woodwork technology teachers and 54 students; the instrument were validated with six experts from the reliability used Cronbach Alpha (α) yielded a coefficient of 0.88 for the whole instrument 85 questionnaire, while the rate of return is 98.75 per cent. Data analysis using frequency, mean and t-test of independent mean. The findings were made among others; 13 techniques employed by woodwork technology teachers is difficulties encountered by students, 24 techniques to be used by teachers and student for effective and efficient woodwork practical project production. There were no significant differences in the mean responses of the teachers on 11 techniques employed by them in conducting practical project instructions. It was recommended that the identified possible techniques to be adopted by teachers and students. The study ended without sample and sampling technique.

Abimbola (2007) carried out a study on skill improvement needs of technical teachers for maintenance of woodworks equipment in secondary schools in Ogun state, four research questions and two hypotheses were addressed. All population were used no sampling for technical teachers currently engaged in the teaching woodwork subject registered with NECO, WAEC and NABTEB in Ogun state. A survey questionnaire using mean, standard deviation and t-test were used in analyzing the data. The result shows that technical teachers did not acquire the skills required for the maintenance of woodwork equipment during their re-service training, in addition lack of fund, lack of spare parts, lack of incentive to motivate technical teachers, lack of library facilities and poor maintenance culture. The inability of technical teachers in carrying out maintenance work in technical equipment in secondary schools, the result revealed work on technical teachers need skills, re-training on the maintenance of woodwork equipment. Hypotheses tested at 0.05 level showed the ineffective

performance in secondary school level is not influenced by the number of years of experience and the certificate they possessed. Recommendations were made base on the findings of the study, workshops or in-service training on the maintenance of the equipment for serving technical fund to buy spare parts and materials for maintenance of woodwork equipment.

Fagbemi (2001) carried out a study on skill improvement need of woodwork teachers for maintenance of woodwork equipment in senior secondary school in Ekiti state. Three research questions, two hypotheses were used to address the study. The population was all woodwork teachers in the state, no sampling was used. A survey questionnaire was used for collection of information from respondents. Frequency distribution, mean and t-test were used in analyzing the data. Result of the data analysis shows that woodwork teacher in Ekiti state did not acquire the skill required for the maintenance of woodwork equipment during their pre-service training. In addition, lack of fund, lack of spare arts, lack of incentive to motivate teachers, poor maintenance culture, the inability of technical teachers in carrying out maintenance work in technical equipment in secondary school. The result also revealed that woodwork teachers need skill re-training on the maintenance of woodwork equipment. Result of the hypotheses tested at 0.05 level showed that effective performance at the senior secondary schools was not influenced by experience. Recommendations were made based on the findings of the study. These include: organizing re-training programme, in the form of seminars, workshops or in-service training on the maintenance of equipment for serving woodwork teacher in senior secondary schools and adequate provision of fund to buy spare parts and materials for maintenance of woodwork equipment.

Besmart-Digbori (2009) examines the adequacy of Technical Education Teachers and machinery for the teaching and learning of woodworking trades in technical colleges with a focus on Sapele Technical College, Sapele, Nigeria. The study was guided by two research questions. A 21-item structured questionnaire was used for data collection. The reliability of the questionnaire was ascertained by the test-retest method with a coefficient of 0.78. Data

collected were analysed using mean and standard Deviation. The results revealed that qualified teachers to teach safety and technical drawing are adequate. NCE and B.Sc. (Ed) teachers are adequate. Teachers to teach woodworking trades are inadequate, while teachers who are ICT literate are inadequate. Holders of B. Ed. Tech certificates are inadequate. Based on the findings, it was recommended that teachers in technical colleges should be computer (ICT) literate, ICT facilities should be made available in all technical colleges in Nigeria and Government and the private sector should provide equipment in existing technical colleges in Nigeria to improve instruction.

Olelewe (2010) focused on strategies for improving the teaching and learning of Qbasicprogramme for quality work skills required in contemporary Nigeria especially in teacher preparation in colleges of education in Anambra, Enugu and Ebonyi states. Data was collected with the use of structured questionnaire containing 43 items. Mean, standard deviation and t-test statistical tools were used for analyzing data no sample was taken. The population consisted of 295r respondents (35 instructors, 25 lecturers, and 235 NCE final year computer students). The instrument was subjected to face validation by three experts, it was further pilot tested on 25 respondents who were used to establish the internal consistency of the instrument. The reliability coefficient was calculated to be 0.98, 0.99, 0.98, 0.98 and 0.99 respectively for each cluster of the instrument and 0.99 as the overall coefficient. Based on the data analyzed, it was found that the technical skills strategies can be used to improve the quality of teaching Qbasic programming. Also, teaching methodology strategies, instructional facilities utilization strategies among others can be employed by computer educators to improve the teaching and learning of Qbasicprogramme in colleges of education. The conclusion was that in order to make the art of programming responsive to the needs of the society, computer students should be made to spend at least six months in computer firms during their industrial work experience to enable them acquire the relevant work skills required to excel in the world of work while school administrators should ensure that

adequate instructional facilities are provided to every computer laboratory to enable students learn and master sound programming skills.

Audu (2010) design to determine the in-service training needs of technical college teachers. Specifically, the study was aimed at determining the in-service training needs of technical college teachers on practical skills with respect to general vehicle maintenance and auto-electrical work. A descriptive survey research design was adopted in carrying out the study. The total sample figure stands at 95 respondents, 47 motor vehicle mechanics teachers and 84 administrators. A structured questionnaire containing 35 items was used to collect the require data for the study. Data collected were analyzed using frequency count, mean, standard deviation and Z-test. Based on the findings, conclusion was drawn and recommendations made in order to provide in-service training to technical teachers colleges. Teachers in motor vehicle-mechanics who have deficiencies with respect to practical skills in general vehicle maintenance and auto-electric work.

Summary of Review of Related Literature

Teaching is a profession in educating young once through a define curricula that is specific to change a behavior of the learner. This change can't occur unless well planned and strategized with aid of instructional material, practical woodwork is leaned when certain process have been done by doing. This motivates students to what woodwork teachers does to boost the morale of the students for employability opportunities after graduation. The serious challenges facing most of Nigerian graduates will be self-overcome by creating jobs for themselves in woodwork practices which is a daily need of the society. Teachers in woodwork practice are facing the challenge as students. The challenge of rapid technological changes and importation of foreign product, this leads to the facts that teachers are to be train not once or twice but on continuous base in in-service, pre-service, seminars, conferences and workshops to be able to live to expectation.

A teacher is expected to perform in his field of discipline that theory of performance (ToP) propounded and develop in six concepts namely; level of knowledge, skills, identify personal factor context, and fixed factor. When people learn, grow and be empowered in society. Social cognitive career theory is a new approach in career development. People learn by watching what other do, therefore, teacher and students should be encouraged to recognize opportunities and resources to find a job and cultivate support system for themselves.

Earlier studies carried out in the woodwork show that information gap exist. Ali conducted a study on mechanizing for improving practical project with ended with less information on strategy for improvement. Abimbola (2007) and Fagbemi (2001) on skill improvement needs for maintenance of wood equipment in different states, while Olelewe (2010) studied the strategies for improving the teaching and learning basic programming and Audu (2010) also determines the in-service training needs in technical colleges. All the literatures reviewed in teaching woodwork, none of the researchers carried out a study to find out the strategies for improving practical projects in woodwork in Colleges of Education (Technical) most especially in the Northwestern states. This creates a gap which the present study tends to fill.

CHAPTER III

METHODOLOGY

This chapter deals on methodology used in conducting the study. They include; Design of the Study, Area of the Study, Population of the Study, Instrument for Data Collection, Validation, and Reliability of the Instrument, Method of Data Collection, and Method for Data Analysis.

Design of the Study

A survey research design was adopted for the study. According to Gall, Gall and Borg (2007), a survey is a method of data collection using questionnaire or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized. Nworgu (2006) describe descriptive survey research as a systematic means of data collection. This descriptive survey research design is considered suitable since this study will solicit for information from the woodwork lecturers and woodwork instructors in Colleges of Education in North-West geo-political zone of Nigeria for the purpose of generalization.

Area of the Study

The area of the study is North-West geo-political zone of Nigeria. Northwestern states comprise of Kano, Kaduna, Katsina, Jigawa, Zamfara, Sokoto and Kebbi state. Seven Colleges of Education in the zone was be used for the study because they all offer woodwork trade. These colleges are Federal College of Education (Technical), Bichi, Kano; Kaduna State College of Education, Gidan-Waya, Kafanchan, Kaduna; Federal College of Education, Katsina; Jigawa State College of Education, Gumel; Federal College of Education (Technical), Gusau; ShehuShagari College of Education, Sokoto; and AdamuAugie College of Education, Argungu. Woodwork graduates from College of Education in the North-West geo-political zone are not properly skilled in practical, hence the study.

Population for the Study

The population for this study comprisedof 15woodwork lecturers and 28 instructors in the seven Colleges of Education (technical) that offer woodwork trade in the Northwestern states. The entire population of 43 respondents drawn out from the seven institutions was used for this study (See Appendix A, p. 81). Since the population is small, no sampling was carried out.

Instrument for Data Collection

The instrument for data collection was developed by the researcher based on the review of related literature of woodwork and practical projects. The instrument is made of five sections. Section: A was on respondent's personal data, while Section B sought for information on in-service training as scheme improve carpentry and joinery; Section C, requested for information on how motivation can be used as mean for improving upholstery; Section D, also south from the respondent's their opinion about how instructional materials can improve cabinetmaking in woodwork; and Section E, solicited for information on the teaching techniques for handling woodwork hand tools and machine tools. The questionnaire is based on a five point Likert scale with numerical value as follows:

Strongly Agree	5	4.50 – 5.00
Agree	4	3.50 – 4.49
Undecided	3	2.50 – 3.49
Disagree	2	1.50 – 2.49
Strongly Disagree	1	0.50 – 1.49

Validation of the Instrument

To ensure the validity of the instrument, the structured questionnaire with 100 items was given to three experts, two from the Department of Vocational Teacher Education, University of Nigeria, Nsukka and from Kaduna polytechnic for face validity. Experts were

requested to check the suitability and clarity of the items in the instrument toeliminate irrelevant statement in order to improve the structure of the items. Based on the comments and suggestions of these experts, some of the items were modified, re-structured, or removed, making 70 items for the study.

Reliability of the Instrument

The reliability of the instrument was established using Cronbach Alpha (α). The instrument was administered to eight woodwork lecturers and instructors in Colleges of Education (Technical) Potiskum in Yobe State. The data obtained from the respondent was computed on Cronbach Alpha to determine the reliability co-efficient at 0.87. College of Education (Technical), Potiskum, Yobe State, is selected because of its relevant demographic attributes with the study area.

Method of Data Collection

The questionnaire was administered through personal contact and with the help of two research assistants, which was employed and trained by the researcher. The respondents were allowed a period of a week to fill the instrument, after which the researcher and the two research assistants went round to collect the questionnaire for analysis.

Method of Data Analysis

Data collected from the respondents was analyzed using mean to answer the research questions. In taking decision, any item with mean of 3.50 and above was regarded as agree while item with mean less than 3.50 was regarded as disagree. All the four null hypotheses were tested using t-test at 0.05 level of significance. If the t-cal is more than the t-tab, the null hypothesis was rejected; but if the t-cal is less than the t-tab, the null hypothesis were accepted.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

In this chapter, the Data Collected and Analyzed is Presented and Discussed. The data is organized around the particular research question and hypothesis to which it provides answers.

Research Question I

What are the in-service training needs of teachers needed for improving practical projects in woodwork?

Data for answering the above research question are presented in Table 1.

Table 1

Mean and Standard Deviation of Respondents Responses on the In-Service Training Needs of Teachers Needed for Improving Practical Projects in Woodwork

N = 43

S/N	The teachers of carpentry and joinery needs to be ;-	X	SD	REMARKS
1.	Introduce new materials used in carpentry and joinery to lecturers/instructors	4.023	0.988	Agreed
2.	Training on modern equipment to update their skills in application joinery hand tools	4.209	0.861	Agreed
3.	Development in timber preparation	3.605	0.821	Agreed
4.	Make adjustments in an establishing estimate and cost in joinery project	3.767	0.782	Agreed
5.	Practical experience in prefabricated timber components	3.601	1.069	Agreed
6.	Expose to dynamic nature of technological education	3.791	0.989	Agreed
7.	Engage less-experienced ones to serve as their mentors or professional guides	3.351	1.395	Disgreed
8.	Development on principles of stair design	3.930	0.884	Agreed
9.	Growth and skills development knowledge and attitude	3.994	1.045	Agreed
10.	Update training on construction and finishing skills	4.116	0.851	Agreed
11.	To enhance staff development continuing education in building/architectural drawing	4.186	0.956	Agreed
12.	Retrained two to six times in a year to keep abreast with technological change in profession	3.558	0.854	Agreed
13.	Area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally	3.605	1.178	Agreed
14.	oversee all curricular programmes associated with woodwork practical project	3.649	1.044	Agreed
15.	Embrace all activities that are geared towards the growth of skills and knowledge of erection of roof and ceilings	3.714	0905	Agreed
16.	Keep woodwork practical project lecturers/instructors abreast with changes in their profession	3.454	0.928	Agreed
17.	Review the areas of inadequacies in curriculum and introduce innovation	3.791	0.878	Agreed
18.	Increase competence of practical skills possessed by the teachers in installing sliding and folding doors	3.698	0.860	Agreed

Data in Table1 1 indicated that all the items area agreed upon by the respondents except item number seven (7) with a mean less than 3.50.Other17 Items have mean value of 3.50 and above.

Research Question 2

How can motivation of teacher improve practical projects in woodwork?

Data for answering the above research question are presented in Table 2.

Table 2

Mean and Standard Deviation of Respondents Responses on How Motivation of Teacher Can Improve Practical Projects in Woodwork

N = 43

S/N	Teachers need motivation in carpentry and joinery	X	SD	REMARKS
1.	Associating positive meaning to the good habit of wood practice in roof design	3.861	0.889	Agreed
2.	Occurrence intent to cause the behavior change to occur in designing facial board	3.651	0.788	Agreed
3.	Teachers receive personal reward immediately when any good skills in practical lessons	3.814	0.958	Agreed
4.	Repetitive action-reward to any students that acted correctly	3.884	0.953	Agreed
5.	Combination of skills can cause action to become habit in both teachers and students in drawing of complex joiner.	3.558	0.881	Agreed
6.	Oneself and people product motivate wood practical practice	3.837	1.022	Agreed
7.	Self actualization in practical project is intrinsic motivation to student in auto carpentry and joinery	3.698	0.860	Agreed
8.	Accomplishing a task in practical project is extrinsic motivation to teachers	4.139	1.082	Agreed
9.	Principles of teacher behavior differ from hypothetical construct of reward in wood practice	3.442	0.884	Agreed
10.	Cognitive approach in principles of carpentry and joinery	3.675	0.993	Agreed
11.	Positive reinforcement demonstrated by teachers increase in nature frequency or magnitude of a response in cut materials	3.581	0.794	Agreed
12.	Negative reinforcement involves stimulus change consisting of the removal of an aversive stimulus of poor safety practices in sew material	3.581	1.138	Agreed
13.	Stimulus changes consisting of the presentation in metallic material	3660	0.940	Agreed
14.	Magnification of an appetitive stimulus follow response from produced leather materials	3.488	0.855	Agreed
15.	Mediated environmental events should be taken care to aids learning design and construct carpentry and joinery	3.697	0.803	Agreed
16.	Relate practical project work to everyday life situation of student's life for fix sewn material	3.609	1.198	Agreed
17.	Identify problems in wood practice and solve them in time of complex carpentry and joinery items	4.177	1.719	Agreed
18.	Evaluate student project work promptly and give reward to best ones produce carpentry and joinery	3.837	1.233	Agreed
19.	Use information gathered during practical class to brainstorm instructional adaptations for appreciate surface finishing	3.604	1.073	Agreed
20.	Identify classroom environmental, curricular, and instructional demands	3.441	0.734	Agreed

Data in Table 2indicated that all the items area agreed upon by the respondents with a mean greater than 3.50.

Research Question 3

How can instructional materials improve practical projects?

Data for answering the above research question are presented in Table 3

Table 3

Mean and Standard Deviation of Respondents Responses on How Instructional Materials Can Improve Practical Projects

N = 43

S/N	Instructional materials to improving practical project in carpentry and joinery:-	X	SD	REMARKS
1.	Apply certain principles and generalization to achieve possible goal on a given job	3.767	0.071	Agreed
2.	Develop students' ability in some cognitive skills in carpentry and joinery	3.767	0.868	Agreed
3.	Use of material provided to find out relationship to the end result of practical woodwork	3.605	0.929	Agreed
4.	Ability to evaluate material in woodwork practical carpentry and joinery	3.721	1.031	Agreed
5.	Application of previous task to solve problems with instructional aids	3.465	0.826	Agreed
6.	Use instructional material to stimulate students to listen to the teacher during woodwork practical project	3.762	0.868	Agreed
7.	Promote understanding in concept and principles in woodwork instructional materials	3.767	1.065	Agreed
8.	Machines work benches, equipment, tools and materials selection to form a major place and resources for practical project	3.767	1.065	Agreed
9.	Give more meaningful learning of woodwork practical project to students	3.744	1.000	Agreed
10.	Help focuses on the content pedagogy of woodwork practical project	3.744	1.051	Agreed
11.	Assist in advocating for highest quality of wood material and iron mongery in practical project in carpentry and joinery	3.883	0.956	Agreed
12.	Present carpentry practical project lessons clearly	3.744	1.026	Agreed
13.	Materials arrange in a logic and systematic way assist in understanding practical project	3.791	1.036	Agreed
14.	Knowledge, skills or abilities are developed in woodwork practical projects and veneering to cabinet finishing through instructional materials	3.791	1.036	Agreed
15.	Facilitate the decision of a person toward taking right action in production of joinery	3.837	0.974	Agreed

Data in Table 3indicated that all the items are agreed upon by the respondents with mean greater than 3.50.

Research Question 4

What are the teaching techniques that will improve the use of hand tools and machine tools?

Data for answering the above research question are presented in Table 4

Table 4

Mean and Standard Deviation of Respondents Responses on the Teaching Techniques that will Improve the Use of Hand Tools and MachineTools

N = 43

S/N	techniques for handling machine tools Teachers need in carpentry and joinery to:	X	SD	Remarks
1.	Giving enough time for teaching of carpentry and joinery in tools handling	4.116	1.073	Agreed
2.	Mastery of woodwork theory and application of tools specification	4.000	1.023	Agreed
3.	Give ample time for application of skills in pull over cross cutting machines	3.954	0.950	Agreed
4.	Development and utilization of appropriate skill in single tenons machine in woodwork	4.069	1.009	Agreed
5.	direct all requirements needed in woodwork practice in the place of work	3.932	0.862	Agreed
6.	learn the knowledge, skills, attitudes and values important in dimensional saw bench	3.837	1.045	Agreed
7.	apply skills in the real work setting of surface planning machine	4.000	0.817	Agreed
8.	Improve teaching skilled in pedagogy and practical projects	3.907	1.065	Agreed
9.	Integrate school-base and work-base learning in teaching	3.883	1.199	Agreed
10.	Improve vocational skills of discovering ways of learning for employable citizen	4.069	1.142	Agreed
11.	Improve in quality of practical project to stand the test of time for effectiveness and relevance in finishing	4.930	0.971	Agreed
12.	Use of pedagogical and professional competence in handling hand tools chisel and hammer	4.093	1.109	Agreed
13.	Use of instruction design and implementation of practical project	4.000	0.976	Agreed
14.	Use of developed practical project syllabus	4.232	1.065	Agreed
15.	Use of basic teaching skills	4.302	0.988	Agreed
16.	incorporate ICT in practical projects woodwork	4.116	0.931	Agreed
17.	Identify student with special characteristics then develop on that to facilitate learning	4.279	1.008	Agreed

Data in Table 4indicated that all the items are agreed upon by the respondents with mean greater than 3.50.

Test of Hypotheses

Hypothesis One

There is no significant difference in the mean responses of instructors and lecturers on in-service training to improve practical projects in woodwork.

Data for analyzing the hypothesis is presented in Table 5.

Table 6

The t-test for Analyses of the Responses of Instructors and lecturers on In-service Training to Improve Practical Projects in Woodwork

N1 = 15 lecturers N2 = 28 instructors

S/N	items;-	X_1	SD_1	X_2	SD_2	t-cal	Remarks
1.	Introduce new materials used in carpentry and joinery to lecturers/instructors	4.0000	1.0000	4.0357	.9993	-112	NS
2.	Training on modern equipment to update their skills in application joinery hand tools	4.1333	.9154	4.2500	.8443	-419	NS
3.	Development in timber preparation	3.5333	.7432	3.6429	.8698	-413	NS
4.	Make adjustments in an establishing estimate and cost in joinery project	4.0000	.8451	3.6429	.7310	1.446	S
5.	Practical experience in prefabricated timber components	2.9333	1.0997	3.0357	1.0709	-296	NS
6.	Expose to dynamic nature of technological education	3.7333	1.1629	3.8214	.9048	-275	NS
7.	Engage less-experienced ones to serve as their mentors or professional guides	1.6000	1.2421	1.6786	1.4920	-174	NS
8.	Development on principles of stair design	3.9333	.9611	3.9286	.85758	0.017	S
9.	Growth and skills development knowledge and attitude	4.2667	1.0997	3.7857	.9946	1.457	S
10.	Update training on construction and finishing skills	4.2000	.9412.	4.0714	.8132	0.450	NS
11.	To enhance staff development continuing education in building/architectural drawing	4.2000	1.0823	4.1786	.9048	0.69	S
12.	Retrained two to six times in a year to keep abreast with technological change in profession	3.5333	.7432	3.5714	.9200	-138	NS
13.	Area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally	3.6667	1.3451	3.5714	1.103	0.250	NS
14.	Oversee all curricular programmes associated with woodwork practical project	3.4667	.9154	3.2857	1.1178	0.537	S
15.	Embrace all activities that are geared towards the growth of skills and knowledge of erection of roof and ceilings	3.9333	1.0320	3.7500	.8443	0.628	S
16.	Keep woodwork practical project lecturers/instructors abreast with changes in their profession	3.9333	.8837	3.6429	.95116	0.988	S
17.	Review the areas of inadequacies in curriculum and introduce innovation	3.8667	.9904	3.7500	1.0044	0.345	NS
18.	Increase competence of practical skills possessed by the teachers in installing sliding and folding doors	3.8000	.9411	3.6429	.82614	0.566	NS

Note: NS = Not Significant

S = Significant

Data in Table indicates that the t-test analysis of the instructors and lecturers. The analysis shows that items number 4, 9, 11, 14, 16 and 18 are significant they have calculated t- values of less than the table t- value of 2.01 at 45 degrees of freedom at 0.05 levels of significant, on in-service training The null hypothesis of no significant difference between the mean rating of responses of instructors and lecturers were therefore accepted in that items From the analysis, it can be inferred that teachers and instructors needs re training in practical projects in woodwork of colleges of education (Technical).

Hypotheses Two

There is no significant difference in the mean responses of instructors and lecturers on the need for motivation as means for improving practical projects in woodwork.

Data for analyzing the hypothesis is presented in Table 6.

Table 6

The t-test for Analysis of the Responses of Instructors and Lecturers on the Need for Motivation as Means for Improvingthe Practical Projects in Woodwork

N 1 = 15 lecturers N 2 = 28 instructors

S/N	Items	X_1	SD_1	X_2	SD_2	t-cal	Remarks
1.	Associating positive meaning to the good habit of wood practice in roof design	4.0667	.88372	3.7500	.88715	1.117	S
2.	Occurrence intent to cause the behavior change to occur in designing facial board	3.8000	.67612	3.5714	.83571	0.910	S
3.	Teachers receive personal reward immediately when any good skills in practical lessons	3.8000	1.0142	3.8214	.94491	-.690	NS
4.	Repetitive action-reward to any students that acted correctly	3.9333	.96115	3.8571	.89087	0.260	NS
5.	Combination of skills can cause action to become habit in both teachers and students in drawing of complex joiner.	3.8000	.86189	3.4286	.87891	1.329	S
6.	Oneself and people product motivate wood practical practice	4.0667	1.0328	3.7143	1.0131	1.081	S
7.	Self actualization in practical project is intrinsic motivation to student in auto carpentry and joinery	3.8000	.86189	3.6429	.86984	0.566	S
8.	Accomplishing a task in practical project is extrinsic motivation to teachers	4.4000	1.1212	4.0000	1.0540	1.160	S
9.	Principles of teacher behavior differ from hypothetical construct of reward in wood practice	3.6667	.81650	3.3214	.86297	1.278	S
10.	Cognitive approach in principles of carpentry and joinery	3.8000	1.0823	3.6071	.95604	0.602	S
11.	Positive reinforcement demonstrated by teachers increase in nature frequency or magnitude of a response in cut materials	3.4667	1.1872	3.6429	1.1292	-479	NS
12.	Negative reinforcement involves stimulus change consisting of the removal of an aversive stimulus of poor safety practices in sew material	4.0000	.92582	3.7857	.95674	0.708	S
13.	Stimulus changes consisting of the presentation in metallic material	3.4667	.91548	3.5000	.83887	-120	NS
14.	Magnification of an appetitive stimulus follow response from produced leather materials	3.7333	.79881	3.6786	.81892	0.211	NS
15.	Mediated environmental events should be taken care to aids learning design and construct carpentry and joinery	3.8000	1.1464	3.5000	1.2322	0.779	S
16.	Relate practical project work to everyday life situation of student's life for fix sewn material	4.1333	.91548	3.4286	.57399	-520	NS
17.	Identify problems in wood practice and solve them in time of complex carpentry and joinery items	4.0667	1.1629	.7143	1.2724	0.891	S
18.	Evaluate student project work promptly and give reward to best ones produce carpentry and joinery	3.6667	1.1127	3.5714	1.0690	0.275	NS
19.	Use information gathered during practical class to brainstorm instructional adaptations for appreciate surface finishing	3.4667	.74322	3.4286	.74180	0.160	NS
20.	Identify classroom environmental, curricular, and instructional demands	3.7342	.81512	3.6715	.7677	0.262	NS

Note: NS = Not Significant

S = Significant

Data in Table 6 indicates that the t-test analysis of the instructors and lecturers. The analysis shows that items number 3, 4, 12, 14, 15, 17, 19 and 20 are not significant they have calculated t- values of less than the table t- value of 2.01 at 45 degrees of freedom at 0.05 levels of not significant, on motivation The null hypothesis of no significant difference between the mean rating of responses of instructors and lecturers were therefore rejected From the analysis, it can be inferred that teachers and instructors share identical opinions as regard motivation in colleges of education (Technical).

Hypotheses Three

There is no significant difference in the mean responses of instructors and lecturers on the use of Instructional materials for improving practical projects in woodwork

Data for analyzing the hypothesis is presented in Table 7.

Table 7

The t-test for the Analysis of Responses of Instructors and Lecturers, on Instructional Materials for Improve Practical Project in Woodwork

N 1 = 15 lecturers N 2 = 28 instructors

S/N	Items	X_1	SD_1	X_2	SD_2	t-cal	Remarks
1.	Apply certain principles and generalization to achieve possible goal on a given job	3.8667	1.0601	3.7143	.93718	0.486	NS
2.	Develop students' ability in some cognitive skills in woodwork	4.0000	.92582	3.6429	.82616	1.296	S
3.	Use of material provided to find out relationship to the end result of practical woodwork	3.6000	.73679	3.6071	1.0306	-024	NS
4.	Ability to evaluate material in woodwork practical	3.9333	.88372	3.6071	1.1001	0.988	S
5.	Application of previous task to solve problems with instructional aids	3.4000	.73679	3.5000	.88192	-374	NS
6.	Use instructional material to stimulate students to listen to the teacher during woodwork practical project	3.9333	.79881	3.6786	.90487	0.915	S
7.	Promote understanding in concept and principles in woodwork instructional materials	4.1333	1.0601	3.5714	1.0338	1.684	S
8.	Machines work benches, equipment, tools and materials selection to form a major place and resources for practical project	4.0667	1.0328	3.6071	1.0659	1.362	S
9.	Give more meaningful learning of woodwork practical project to students	3.9333	1.0328	3.6429	.98936	0.904	S
10.	Help focuses on the content pedagogy of woodwork practical project	4.0667	1.0328	3.7857	1.0665	0.832	S
11.	Assist in advocating for highest quality of wood material and iron mongary in practical project in woodwork	4.1333	.99043	3.7500	.92796	1.261	S
12.	Present carpentry practical project lessons clearly	4.0000	1.0000	3.6071	1.0306	1.203	S
13.	Materials arrange in a logic and systematic way assist in understanding practical project	4.0667	1.0997	3.7857	1.1974	0.754	S
14.	Knowledge, skills or abilities are developed in woodwork practical projects and veneering to cabinet finishing through instructional materials	3.800	1.014	3.785	1.066	0.943	S
15.	Facilitate the decision of a person toward taking right action in production of joinery	4.000	.9258	3.750	1.004	0.799	S

Note: Not Significant

Significant

Data in Table 7 indicates that the t-test analysis of the instructors and lecturers. The analysis shows that items number 1, 3 and 5are not significant they have calculated t- values

of less than the table t- value of 2.01 at 45 degrees of freedom at 0.05 levels of significant, on instructional materials The null hypothesis of no significant difference between the mean rating of responses of instructors and lecturers were therefore accepted in that items From the analysis, it can be inferred that teachers and instructors share identical opinions in colleges of education (Technical).

Hypotheses Four

There is no significant difference in the mean responses of instructors and lecturers on teaching techniques for improving the use of hand and machine tools.

Data for analyzing the hypothesis is presented in Table 8.

Table 8

The t-test for the Analysis of Responses of Instructors and Lecturers, on Teaching Techniques Improve the Use of Hand and Machine Tools

N 1 = 15 lecturers N 2 = 28 instructors

S/N	Items	X_1	SD_1	X_2	SD_2	t-cal	Remarks
1.	Giving enough time for teaching of woodwork in tools handling	4.3333	1.11270	4.0000	1.0540	0.970	S
2.	Mastery of woodwork theory and application of tools specification	4.2667	1.09978	3.8571	.97046	1.259	S
3.	Give ample time for application of skills in pull over cross cutting machines	4.0667	.96115	3.8929	.95604	0.567	S
4.	Development and utilization of appropriate skill in single tenons machine in woodwork	4.0667	1.03280	4.0714	1.0157	-015	NS
5.	direct all requirements needed in woodwork practice in the place of work	4.0667	.88372	3.8571	.84828	0.761	S
6.	learn the knowledge, skills, attitudes and values important in dimensional saw bench	4.0667	1.16292	3.7143	.97590	1.052	S
7.	apply skills in the real work setting of surface planning machine	4.0667	.88372	3.9643	.79266	0.386	S
8.	Improve teaching skilled in pedagogy and practical projects	4.0667	1.09978	3.8214	1.0559	0.716	S
9.	Integrate school-base and work-base learning in teaching	4.2667	1.09978	3.6786	1.2187	1.558	S
10.	Improve vocational skills of discovering ways of learning for employable citizen	4.2667	1.03280	3.9643	1.2013	0.824	S
11.	Improve in quality of practical project to stand the test of time for effectiveness and relevance in finishing	4.3333	.97590	3.9643	.96156	1.193	S
12.	Use of pedagogical and professional competence in handling hand tools chisel and hammer	4.2667	1.09978	4.0000	1.1221	0.748	S
13.	Use of instruction design and implementation of practical project	4.2667	.96115	3.8571	.97046	1.323	S
14.	Use of developed practical project syllabus	4.1333	1.06010	4.2857	1.0837	-443	NS
15.	Use of basic teaching skills	4.2667	1.09978	4.3214	.94491	-171	S
16.	Incorporate ICT in practical projects woodwork	4.2000	.94112	4.0714	.94000	0.427	NS
17.	Identify student with special characteristics then develop on that to facilitate learning	4.3333	.97590	4.2500	1.0408	0.256	NS

Note: NS = Not Significant

S = Significant

Data in Table indicates that the t-test analysis of the instructors and lecturers. The analysis shows that items number 4, 14, 16 and 17 are not significant they have calculated t-values of less than the table t- value of 2.01 at 45 degrees of freedom at 0.05 levels of significant, on teaching techniques The null hypothesis of no significant difference between the mean rating of responses of instructors and lecturers were therefore accepted in that items From the analysis, it can be inferred that teachers and instructors share identical opinions in colleges of education (Technical).

Findings of the Study

The following were the findings of the study;-

A. In-service training needs of teachers that will improve practical projects in woodwork

1. Introduce new materials used in woodwork to lecturers/instructors
2. Trained on modern equipment to update their skills in selection and application wood hand tools
3. Construction and finishing skills
4. To enhance staff development continuing education in building/architectural drawing
5. Expose to dynamic nature of technological education
6. Engage less-experienced ones to serve as their mentors or professional guides
7. Development on principles of stair design
8. Growth and skills development knowledge and attitude
9. Construction and finishing skills
10. To enhance staff development continuing education in building/architectural drawing
11. Retrain two to six times in a year to keep abreast with technological change in profession

B. Motivation has a means of improving practical projects in woodwork

1. Accomplishing a task in practical project is extrinsic motivation to teachers
2. Evaluate student project work promptly and give reward to best ones produce
3. Associating positive meaning to the good habit of wood practice in roof design
4. Occurrence intent to cause the behavior change to occur in designing facial board
5. Teachers receive personal reward immediately when any good skills in practical lessons
6. Repetitive action-reward to any students that acted correctly
7. Combination of skills can cause action to become habit in both teachers and students in drawing of complex joiner.
8. Oneself and people product motivate wood practical practice
9. Self actualization in practical project is intrinsic motivation to student in auto woodwork

10. Principles of teacher behavior differ from hypothetical construct of reward in wood practice

C. Instructional Materials for Improving Practical Projects in Woodwork?

1. Assist in advocating for highest quality of wood material and iron mongary in practical project in woodwork
2. Facilitate the decision of a person toward taking right action in production of joinery
3. Apply certain principles and generalization to achieve possible goal on a given job
4. Develop students' ability in some cognitive skills in woodwork
5. Use of material provided to find out relationship to the end result of practical woodwork
6. Ability to evaluate material in woodwork practical
7. Application of previous task to solve problems with instructional aids
8. Use instructional material to stimulate students to listen to the teacher during woodwork practical project
9. Promote understanding in concept and principles in woodwork instructional materials
10. Help focuses on the content pedagogy of woodwork practical project

D. Teaching Techniques for Improving Practical Projects in Woodwork

1. Giving enough time for teaching of woodwork in tools handling
2. Mastery of woodwork theory and application of tools specification
3. Development and utilization of appropriate skill in single tenons machine in woodwork
4. apply skills in the real work setting of surface planning machine
5. Improve vocational skills of discovering ways of learning for employable citizen
6. Improve in quality of practical project to stand the test of time for effectiveness and relevance in finishing
7. Use of pedagogical and professional competence in handling hand tools chisel and hammer
8. Use of instruction design and implementation of practical project

9. Use of developed practical project syllabus
10. Use of basic teaching skills
11. incorporate ICT in practical projects woodwork
12. Identify student with special characteristics then develop on that to facilitate learning
13. The findings reviled that all of the items are except one in that is strongly disagreed in in-service training

Findings of the Hypotheses

There is no significance in mean responses of qualified teachers and less qualified teachers in all most all. Instructors and teachers differ significantly in the following items

1. Introduce new materials used in woodwork to lecturers/instructors
2. Trained on modern equipment to update their skills in selection and application joinery hand tools
3. Development in timber preparation
4. Practical experience in prefabricated timber components
5. Expose to dynamic nature of technological education
6. Engage less-experienced ones to serve as their mentors or professional guides
7. Construction and finishing skills
8. Retrained two to six times in a year to keep abreast with technological change in profession
9. Area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally
10. Overcome the areas of inadequacies in terms of curriculum changes and innovation

11. Area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally
12. overcome the areas of inadequacies in terms of curriculum changes and innovation

13. Teachers receive personal reward immediately when any good skills in practical lessons
14. Repetitive action-reward to any students that acted correctly
15. Negative reinforcement involves stimulus change consisting of the removal of an aversive Magnification of an appetitive stimulus follow response from produced leather materials
16. Identify problems in wood practice and solve them in time of complex carpentry and joinery items
17. Use information gathered during practical class to brainstorm instructional adaptations for appreciate surface finishing
18. Identify classroom environmental, curricular, and instructional demands
19. Apply certain principles and generalization to achieve possible goal on a given job
20. Use of material provided to find out relationship to the end result of practical woodwork
21. Use of developed practical project syllabus
22. Use of basic teaching skills
23. incorporate ICT in practical projects woodwork
24. Identify student with special characteristics then develop on that to facilitate learning

Discussion of the Findings

The skills improvement needs of woodwork teachers in College of education (Technical) were analyzed and ascertained as they were found relevant. This finding according to research question one are: introduce new materials used in woodwork to lecturers/instructors, training on modern equipment to update their skills in selection and application wood hand tools, construction and finishing skills, and to enhance staff development continuing education in building/architectural drawing. Those skills are

complementary for effective job for in-service training of staffs. This is in line with Oranu (1990) who stated that personality development can be described as a combination of a press and a need. Hence, the desire to satisfy or gratify these needs directs or indicates human behaviour. The above concepts of needs have implication, among other things, to teachers in general and woodwork teachers in particular. This is in agreement with Olaitan (1978), Onwu (1982) and Onwu (1985) which emphasized the fact that before any training programme is established, the felt needs of teachers who will participate in such a programme must be ascertained. This is to support Hughes and Doughery (1977) who suggested that the perceived needs of teachers must be considered, and also in-service education programme should be based on the identified needs of the teachers which should be structured to permit their active involvement.

The analysis of research question two presented in Table 2 provided such finding as indicated by the mean rating of teachers: Accomplishing a task in practical project is extrinsic motivation to teachers and Evaluate student project work promptly and give reward to best ones produce that improved needed by teachers motivation all agreed on by the respondents who believed it should be in both theoretical and more of practical for motivation performance and satisfaction of any worker This supports the opinion of Akubue (1981) and Anyakoha (1982) which states that needs for in-service training should be based on strategies for improvement in which the respondents found them deficient and so need re-training in an in-service education programme.

According to research question three as analyzed in Table 3, the finding of this table shows that there are some strategies that are needed in woodwork teachers which could be acquired through theoretical programme, which include: Assist in advocating for highest quality of wood material and iron mongary in practical project in woodwork. Facilitate the decision of a person toward taking right action in production of joinery. Though, all respondents agreed that acquisition of desired instructional materials will be more through

practical training programme. Teachers of higher education level. Green explained that a competent woodwork teacher must be skilled in the selection of appropriate materials in guiding the students to carry out successful projects using the selected materials through a planned practical activity.

In the analysis of research question four, presented in Table 4, the findings revealed that the improvement needs in practical projects should be organized through practical training programme as indicated by the mean rating of the respondents' responses. These include: Giving enough time for teaching of woodwork in tools handling. Mastery of woodwork theory and application of tools specification. Development and utilization of appropriate skill in single tenons machine in woodwork. apply skills in the real work setting of surface planning machine. Improve vocational skills of discovering ways of learning for employable citizen. Improve in quality of practical project to stand the test of time for effectiveness and relevance in finishing. Use of pedagogical and professional competence in handling hand tools chisel and hammer. Use of instruction design and implementation of practical project. Use of developed practical project syllabus. Use of basic teaching skills. incorporate ICT in practical projects woodwork. Identify student with special characteristics then develop on that to facilitate learning. The findings reviled that all of the items are except one in that is strongly disagreed in in-service training. This supports Ani (1989) proposal that teaching effectiveness is a function of what to teach, how to teach, to whom it will be taught and the condition under which it will be taught. In line with this, Cannon (1991) also focused on the personal and professional qualities of the teacher for effective teaching and learning. Respondents agreed that the acquisition of the desired strategies will be more through practical training programme. This agreed with Green (1954) who explained that professional teachers must be skilled in the selection of appropriate materials in guiding the students to carry successful projects Agwu (1988) supported by saying that quality education

presupposes quality teaching which can only be achieved through mastery of the various skills in the teaching components.

Null Hypothesis

The result of the null hypothesis shows that there is no significant difference in the strategies for improving practical projects in woodwork teachers and instructors in in-service training, motivation, instructional materials and teaching techniques for improving technical teachers this means that the strategies for improvement of teachers and instructors are the same. On these items,there is no significance in mean responses of qualified teachers and less qualified teachers in all most all. Instructors and teachers differ significantly in the following items:

Introduce new materials used in woodwork to lecturers/instructors,trained on modern equipment to update their skills in selection and application joinery hand tools,development in timber preparation, practical experience in prefabricated timber components, expose to dynamic nature of technological education,engage less-experienced ones to serve as their mentors or professional guides, construction and finishing skills, retrained two to six times in a year to keep abreast with technological change in profession, area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally overcome the areas of inadequacies in terms of curriculum changes and innovation,area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally, overcome the areas of inadequacies in terms of curriculum changes and innovation,teachers receive personal reward immediately when any good skills in practical lessons,repetitive action-reward to any students that acted correctly,negative reinforcement involves stimulus change consisting of the removal of an aversive magnification of an appetitive stimulus follow response from produced leather materials,identify problems in wood practice and solve them in time of complex carpentry and joinery items,use information

gathered during practical class to brainstorm instructional adaptations for appreciates surface finishing; Identify classroom environmental, curricular, and instructional demands;apply certain principles and generalization to achieve possible goal on a given job;use of material provided to find out relationship to the end result of practical woodwork;use of developed practical project syllabus;use of basic teaching skills; incorporate ICT in practical projects woodwork;identify student with special characteristics then develop on that to facilitate learning so null hypotheses is accepted as to above items.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Re-Statement of the Problem

Changes in college of education (Technical)graduates have been in programme structure, curriculum, content and implement. Primarily, the objective of college of education (technical)programme is to produce qualified technical teachers motivated to start the so much desired revolution of technological development right from the Nigerian schools graduates. Unfortunately, colleges of education (technical)graduates are weak in the practice of their trades. Therefore, poor skill oriented college of education (technical)graduate is a reflection of the quality of teachers in colleges of education technical. These teachers attend different institutions and so, possess different qualifications and work experiences. The technical nature of teacher's area of specialization requires specific technical strategies for career success.Strategies required are those theory and practical knowledge/skills and pedagogical strategies necessary for execution of practical task in an area of specialization.

Woodworkwhich consists of courses at college of education (technical)level where topics are aimed at studying the technical strategies include: all aspect of practical projects. Teachers have to show mastery in both the theory and practical of the trade. The problem of this study therefore, is to examine the strategies for improvements, intensity of teachers of woodwork in Government College of education (Technical). The specific purposes of the study are to: in-service training, motivation, instructional materials and teaching techniques for the effective teaching and learning.

Summary of Procedures Used

In the study, a survey research design was used for the study;the study covered all the woodwork teachers in Government Colleges Education (Technical) in north States of Nigeria. The population was made up 43 woodwork teachers in all the states mentioned above. A

structured questionnaire with 70 items which consists of two sections was used. Section A consists of items on the personal data about the respondents. Section B consists of items based on the research questions. The response category was structured according to the five pointLikertscale responses ofStrongly Agreed SA, Agreed A Undecided UD Disagreed and Strongly Disagreed

Major Findings of the Study

The following are the major findings of the study: There is need for in-service training programme for teachers of woodwork in Colleges of education. Introduce new material used in woodwork to lecturers/instructors. Trained on modern equipment to update their skills in selection and application of woodwork hand tools. To enhance staff development continue education in building/architectural drawing. Accomplishing a task in practical project extrinsic motivation to teaches. Evaluate student project work promptly and give reward to best ones produce. Assist in advocating for highest quality of wood material and iron mongary in practical project in woodwork. Apply skills in the real work setting to surface planning machine. Incorporate ICT in practical projects woodwork. The findings revealed that all of the items except one that is strongly disagreed in in-service training of teacher of woodwork should be addressed to include both theoretical and practical strategies with more emphases on practical abilities in the improvement. The length of teaching experience has no relationship with the level of technical competency needs of woodwork teachers in Collegesof Education (Technical), The status of woodwork teachers has no effect on the technical improvements needs for their job performance. The perceptions of both instructors and teachers of woodwork are similar on strategies required of woodwork ' for qualitative job performance.

Implication of the Study

The findings of the study have the following implications. The effects of using the appropriate strategies required in woodwork for psychomotor skill development is not well felt due to shortage of the needed strategiesfor improvement by teachers. This leads to one sided psychomotor skill development, leaving the area woodworkprogrammes where the strategies exist. The next implication of the findings of the study is that most Colleges of Education (Technical) due to lack of competent teachers embark only on theoretical aspects of woodwork to the detriment of psychomotor skill development in the students. Expectedly, the resultant effect to this is the over production of academically sound but technically deficient woodwork graduates who are capable of reciting all the principles and theories

The study also proved that the teachers of woodwork desire for more practical competency in woodwork and only when they are assured of the in-service training opportunity to equip themselves with skills through workshop and site experiences could these needs be met. This accounts for the reason why students of woodwork do not take practical aspect of their studies more seriously since they believe that all their teachers are deficient in practical strategies.

The implication of the null hypotheses for the study as was observed after testing the hypothesis are: For null hypothesis one, the implication is that teachers of woodwork were not commonly competent in practical projects in Colleges of Education (Technical) and so negatively affected psychomotor development of the students. For null hypothesis two, it proved that different strategies improvements were needed for psychomotor skill development in woodwork by teachers. This led to inadequate development of students in skills. The third null hypothesis discovered that there were deficiencies in strategies possessed by woodwork teachers for teaching in college of education (technical)in the states under study hoping to improve on their competency level if given the pre-service and in-

service training opportunity, the psychomotor skills of the students and teachers of woodwork were not fully and properly developed.

Conclusion

It is through effective technical teacher education programme that the nations technological development objective can best be achieved, since training is one of the conditions which can influence teachers effectiveness, The following conclusion were made base on the result of the study. The findings of this study has shown some salient points that needs to be revisited by the National Commission for Colleges of Education (NCCE) in assessing actually the competency improvement requirements of teachers of woodwork in Collegesof Education (Technical). From the findings, there is the Conclusion that there were shortages in the desired strategies woodwork teachers. As a result of this, the performance of teachers on woodwork was limited to a few strategies available.

Furthermore, the shortage of adequate strategies of teachers of woodwork in Colleges brings about poor psychomotor skill development in the students. As a result, the fewpractical strategies possessed by the teachers were utilized in teaching woodwork for psychomotor skill development in woodwork students. In summary therefore, it is understandable that the purpose of this study has been met. Discovering that strategies for improvement of woodwork teachers in Collegesof Education(Technical)were inadequate and glaring, that few strategies were adopted woodworkpractical activities based on the strategies possessed by teachers. that effects of the deficient strategy (theoretical and practical) by woodwork teachers equally felt in the area of teaching woodwork to students and effective performance on the part of teachers, and that many ways would be adopted for more acquisition of strategies for improvement in woodwork and effective utilization of teachers, confirm the fact that the purpose of the study has been effectively achieved.

Recommendations

The following recommendations are made from this study. Since there were inadequate competent teachers of woodwork in Collegesof Education (Technical), the Federal government should make effort to provide enough in-service training programmes for woodwork technology teachers. Such in-service technical training programme should be in form of workshops, post-graduate programmes, seminars, conferences and any other forms of training that will assist the teachers of woodwork in improving their strategies. Woodwork technology teachers in Collegesof Education(Technical) should be given in-service courses, workshop and seminars on practical aspects of practical projects this will enable them to adapt actively in woodwork workshop and relevant to students' psychomotor skill development. The identified strategies required needs improvement for teachers of woodwork should form the basis for the in-service training programme to be organized by the training institution. Curriculum planners can also use the identified strategies improvement needs in planning and developing the curriculum content of the in-service training programme. This study finds no deficiency in the curriculum so no evidence for review. The above recommendations if considered and implemented will go along way in improving thewoodwork technology strategies Collegesof Education (Technical)

Suggestions for Further Research

This study which dealt withstrategies for improvingwoodwork technology teachers in Colleges of Education (Technical)

(1) Gain of in-service training, pre-service and post-training, programmes and on the job efficiency of woodworkteachers in colleges of education

(2) In-service training programmes for teachers of woodwork problems and prospects. Finally, a similar study could be carried out to identify the technical competency improvements in woodwork for teachers of Introductory Technology in sampled

states to ascertain whether there is deficiency transfer from the teachers to the students at the level of learning in Government Technical Colleges.

(3) A study to be carried in the aspect woodwork technology that this study delimited

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APPENDIX A

List of Colleges of Education in Northwestern Nigeria

S/No	Institutions	No. of Teachers/Instructor	Instructor
1	Federal College of Education (Technical), Bichi, Kano	3	5
2	Kaduna State College of Education, Gidan-Waya, Kafanchan, Kaduna	3	4
3	Jigawa State College of Education, Gumel	2	4
4	Federal College of Education (Technical), Gusau	2	4
5	ShehuShagari College of Education, Sokoto	2	4
6	Federal College of Education, Katsina	2	4
7	AdamuAugie College of Education, Argungu	1	3
	Total	**15**	**28**

APPENDIX B

LETTER OF INTRODUCTION

Department of Vocational Teacher Education
University of Nigeria
Nsukka

Dear Respondents,

The researcher is a student of Vocational Teacher Education Department, University of Nigeria, Nsukka carrying out a

research on: "**Strategies for Improving Practical Projects in Woodwork in College of Education (Technical) in Northwestern States of Nigeria**".

Your maximum cooperation in completing this questionnaire is highly solicited as all information provided will be used for academic purpose only and will be treated with utmost confidentiality. Hence, your honest cooperation is highly anticipated.

The researcher will be grateful for your prompt compliance as this will facilitate the quick completion of this study.

Thanks.

Yours faithfully,

Aliyu, Abdul Makarfi

APPENDIX C

DEPARTMENT OF VOCATIONAL TEACHER EDUCATION
SCHOOL OF POSTGRADUATE STUDIES
UNIVERSITY OF NIGERIA, NSUKKA

STRATEGIES FOR IMPROVING PRACTICAL PROJECTS IN WOODWORK IN COLLEGE OF EDUCATION (TECHNICAL) IN NORTHWESTERN STATES OF NIGERIA

SECTION A: Personal Data

Instruction: Tick (✓) against the box of fill the gap as applicable to you.

1. Higher Educational Qualification:

(i)B.Sc/B.Ed [ ] (ii) HND Woodwork with PGDE [ ]

(iii) M.Sc / M.Ed [ ] (iv) Other (please specify) ……. [ ]

2. Location: Lecturer [ ] Rural [ ]

SECTION B:STRATEGIES FOR IMPROVING PRACTICAL PROJECTS IN WOODWORK IN COLLEGE OF EDUCATION (TECHNICAL) IN NORTHWESTERN STATES OF NIGERIA

Instruction: This section consists of strategies for improving practical projects with a tick (✓). Indicate youth theory and practical competency require related to the identified concept and the teaching that will best suit the training

Research Questions One

What are the in-service training needs of teachers needed for improving practical projects in woodwork?

S/N	The teachers of carpentry and joinery needs to be ;-	SA	A	UD	D	SD
1.	Introduce new materials used in carpentry and joinery to lecturers/instructors					
2.	Training on modern equipment to update their skills in application joinery hand tools					
3.	Development in timber preparation					
4.	Make adjustments in an establishing estimate and cost in joinery project					
5.	Practical experience in prefabricated timber components					
6.	Expose to dynamic nature of technological education					
7.	Engage less-experienced ones to serve as their mentors or professional guides					
8.	Development on principles of stair design					
9.	Growth and skills development knowledge and attitude					
10.	Update training on construction and finishing skills					
11.	To enhance staff development continuing education in building/architectural drawing					
12.	Retrained two to six times in a year to keep abreast with technological change in profession					
13.	Area of professional competence of each colleague benefits the other eventually leading to each member of staff growing academically and professionally					
14.	oversee all curricular programmes associated with woodwork practical project					
15.	Embrace all activities that are geared towards the growth of skills and knowledge of erection of roof and ceilings					
16.	Keep woodwork practical project lecturers/instructors abreast with changes in their profession					
17.	Review the areas of inadequacies in curriculum and introduce innovation					
18.	Increase competence of practical skills possessed by the teachers in installing sliding and folding doors					

Research Question Two

How can motivation of teacher improve practical projects in woodwork?

S/N	Teachers need motivation in carpentry and joinery;-	SA	A	UD	D	SD
19	Associating positive meaning to the good habit of wood practice in roof design					
20.	Occurrence intent to cause the behavior change to occur in designing facial board					
21.	Teachers receive personal reward immediately when any good skills in practical lessons					
22.	Repetitive action-reward to any students that acted correctly					
23.	Combination of skills can cause action to become habit in both teachers and students in drawing of complex joiner.					
24.	Oneself and people product motivate wood practical practice					
25.	Self actualization in practical project is intrinsic motivation to student in auto carpentry and joinery					
26.	Accomplishing a task in practical project is extrinsic motivation to teachers					
27.	Principles of teacher behavior differ from hypothetical construct of reward in wood practice					
28.	Cognitive approach in principles of carpentry and joinery					
29.	Positive reinforcement demonstrated by teachers increase in nature frequency or magnitude of a response in cut materials					
30.	Negative reinforcement involves stimulus change consisting of the removal of an aversive stimulus of poor safety practices in sew material					
31.	Stimulus changes consisting of the presentation in metallic material					
32.	Magnification of an appetitive stimulus follow response from produced leather materials					
33.	Mediated environmental events should be taken care to aids learning design and construct carpentry and joinery					
34.	Relate practical project work to everyday life situation of student's life for fix sewn material					
35.	Identify problems in wood practice and solve them in time of complex carpentry and joinery items					
36.	Evaluate student project work promptly and give reward to best ones produce carpentry and joinery					
37.	Use information gathered during practical class to brainstorm instructional adaptations for appreciate surface finishing					
38.	Identify classroom environmental, curricular, and instructional demands					

Research Question Three

How can instructional materials improve practical projects in woodwork?

S/N	Instructional materials to improving practical project in carpentry and joinery:-	SA	A	UD	D	SD
39.	Apply certain principles and generalization to achieve possible goal on a given job					
40.	Develop students' ability in some cognitive skills in carpentry and joinery					
41.	Use of material provided to find out relationship to the end result of practical woodwork					
42.	Ability to evaluate material in woodwork practical carpentry and joinery					
43.	Application of previous task to solve problems with instructional aids					
44.	Use instructional material to stimulate students to listen to the teacher during woodwork practical project					
45.	Promote understanding in concept and principles in woodwork instructional materials					
46.	Machines work benches, equipment, tools and materials selection to form a major place and resources for practical project					
47.	Give more meaningful learning of woodwork practical project to students					
48.	Help focuses on the content pedagogy of woodwork practical project					
49.	Assist in advocating for highest quality of wood material and iron mongary in practical project in carpentry and joinery					
50.	Present carpentry practical project lessons clearly					
51.	Materials arrange in a logic and systematic way assist in understanding practical project					
52.	Knowledge, skills or abilities are developed in woodwork practical projects and veneering to cabinet finishing through instructional materials					
53.	Facilitate the decision of a person toward taking right action in production of joinery					

Research Question Four

What are the teaching techniques that will improve the use of hand and machine?

S/N	Techniques for handling machine tools Teachers need in carpentry and joinery to;-	SA	A	UD	D	SD
54.	Giving enough time for teaching of carpentry and joinery in tools handling					
55.	Mastery of woodwork theory and application of tools specification					
56.	Give ample time for application of skills in pull over cross cutting machines					
57.	Development and utilization of appropriate skill in single tenons machine in woodwork					
58.	Direct all requirements needed in woodwork practice in the place of work					
59.	Learn the knowledge, skills, attitudes and values important in dimensional saw bench					
60.	Apply skills in the real work setting of surface planning machine					
61.	Improve teaching skilled in pedagogy and practical projects					
62.	Integrate school-base and work-base learning in teaching					
63.	Improve vocational skills of discovering ways of learning for employable citizen					
64.	Improve in quality of practical project to stand the test of time for effectiveness and relevance in finishing					
65.	Use of pedagogical and professional competence in handling hand tools chisel and hammer					
66.	Use of instruction design and implementation of practical project					
67.	Use of developed practical project syllabus					
68.	Use of basic teaching skills					
69	Incorporate ICT in practical projects woodwork					
70.	Identify student with special characteristics then develop on that to facilitate learning					

Vocational and technical education has no one specific definition. It has been defined in so many ways by various authors. For example Evans and Herr (1979) in Toby (2000) defined vocational and technical education as that part of education which makes an individual more employable in one group of occupations than in another. Ekpenyong (2001) says vocational and technical education can easily be traceable to the different interpretation attached to them.Â Comparing Students' Enrolment and Graduate Output in Home Economics with Other Vocational Subjects in Colleges of Education in Nigeria By Arubayi, D. O. College Student Journal, Vol. 43, No. 3, September 2009. Read preview Overview.