ASSESSMENT OF THE TRAINING NEEDS OF WOODWORK CRAFTSMEN FOR EFFECTIVE PERFORMANCE IN CONSTRUCTION INDUSTRIES IN ABUJA

BY

IBRAHIM, Dare Nurudeen
2016/1/61086TI

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION FEDERAL UNIVERSITY OF TECHNOLOGY MINNA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF TECHNOLOGY DEGREE (B.TECH) IN INDUSTRIAL AND TECHNOLOGY EDUCATION

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DECLARATION

I IBRAHIM, Dare Nurudeen with matriculation number 2016/1/61086TI an undergraduate of the Department of Industrial and Technology Education certify that the work embodied in this project is original and has not been submitted in part or full for any Diploma or Degree of this or any other university.

IBRAHIM, Dare Nurudeen
2016/1/61086TI

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Sign and Date

CERTIFICATION

This project has been read and approved as meeting the requirement for the award of B.Tech in (Wood work Technology) Education, Industrial and Technology Education, School of Science and Technology Education, Federal University of Technology Minna, Niger State.

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External Examiner _____
Signature & Date

DEDICATION

This research work is dedicated to Almighty Allah who has been my source of Strength, Grace and Wisdom throughout the period of my study, through whose Grace and Favor I have been able to run my course and scale through the hurdles of my academic pursuit

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ABSTRACT

This study examined the training needs of woodwork craftsmen for effective performance in construction industry in Abuja, Nigeria. Three research questions and three corresponding hypotheses were formulated and guide the study. Descriptive research survey was used for the study. The study was carried out in Abuja. The total population comprises of fifteen woodwork craftsmen and thirty management employees from six construction companies registered with company Affairs Commission (CAC) in Nigeria Federal Capital Territory. All the forty five respondents will be used for the study. A structured questionnaire was used as the instrument for data collection. The instrument was administered to the respondents by the researcher. Data collected for this study will be analyzed by computing the mean and t-test statistics. Mean was used to answer the research questions while Independent t-test was used to test the hypotheses at 0.05 level of significance. From the findings, the results revealed that there was no significant difference between the mean responses of woodwork craftsmen and the management staff in the woodwork construction industries on the skills possessed by the woodwork craftsmen in the construction industry. The result also revealed that there was no significant difference between the mean responses of woodwork craftsmen and the management staff in the woodwork construction industries on the skills needed for effective performance of woodwork craftsmen in the construction industry. Based on the findings, following recommendations were made among others; employees should be adequately motivated to perform in high spirit and plan should be made for retaining and retraining of staffs.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

The construction industry in Nigeria is labour intensive and it is the highest employer of the nation's work force. The industry also accounts for over 50% of the country's gross capital formulation (Fagbenle *et al.,* 2014). In the words of Olatunji *et al.* (2015) the largest share of investment capital in all developing countries is on construction. According to Obiegbu (2013) the level of building achievement and activity in any country is a measure of the country's success: a high level of building activity indicates a healthy vigorous national economy; and highly developed building forms indicate a high level of civilized and cultural achievement in a country. In the pre-independence decade it accounted for about 40% of the total capital formation and in the immediate post independence decade its contribution was a little above 50% (Umo, 2015).

The development of the construction industry is the base for all industrial activities in the country. Since economic progress depends upon the investment of the capital for future production, the rate of construction activity has a significant effect upon the economic health of a nation and its future growth. Unfortunately, the most empirical studies have revealed that the input of the industry in Nigeria is quite low when compared with many developing countries (Fagbenle, 2014 and Olatunji, 2015). However, there are other factors that have hampered the productive capacity of labour in Nigeria's construction industry. Some of these factors are the workers' technical and attitudinal skill coupled with the educational background and the management and technology available for the industry (Olomolaiye, 2017). Coker and Agbede (2015) found out that labour without appropriate equipment has limitation as per scope and completion time of projects. Muya *et al.,* (2016) argued that the quality of services offered by construction industry depend largely on the quality of their workforce. Furthermore,

workforce in the construction industry, the craft skills constitute the majority and execute most of the jobs because the industry is still manual labour intensive (Fellows, 2015). Woodwork craftsmanship in Nigeria, is dated back to the pre-historic days when men who were more adapt in construction idustry than other members in the community were hired to construct houses. Days past even till now, children of master craftsmen learn their parents' trade so that the knowledge and skills of the craft are handed down from father to son (Osasona, 2015). Construction craftsmen are construction operatives who contribute skillfully with their hands in the practical realization of a project in the construction industry (Dantong, 2017)

In keeping with Obiegbu (2013), Coaching is giving instructing and follow to a man or woman or participants as a way to raise him/her to a favored average of habits, effectivity or bodily condition. Moreover, he outlined training as: "submitting a man or woman to discipline and tenet, to train, to deliver up, rear in habits of high-quality behaviour and habits". That's exactly what have acquired to be completed in training of building craftsmen. It is important to educate, train and chiefly, discipline and give up habits of "nice behaviour". Failure to take motion will outcome ultimately in mistakes, omissions and consequent disaster. On the other hand, teaching varieties/approaches are numerous, and to gain the principal intention of any coaching, it's relevant to pursue probably essentially the most suitable teaching types/approaches so that it'll be cheap and crucial to the enterprise, specifically in its contribution to productiveness. Farlex (2015) outlined training programme as a programme designed for training in detailed skills. It is usually Outlined as a protracted-time period coaching recreation which (as opposed to a coaching mission) comprises of a sequence of guides, and generally has a bendy time and fee finances business dictionary, 2014). It is a agenda of routine comprising of publications for a mentioned interval of time. It suggests what should be discovered, where and when for the complete period of the training. Nmadu (2016) defines teaching as an organizational effort to change

the behaviour or attitudes of staff in order that they are organized to take part in to suitable requisites on the job. Coaching seeks to gain elevated human productiveness with the aid of using utilising setting up the capability measure of the work vigor (Olugbemi, 2016). Inserting them at the same time it can be involved with making employees additional in a position and efficient within the efficiency of their gift tasks or in educating for a company new type of job to satisfy the dynamic wants of the team. Performance measurement is the ongoing monitoring and reporting of application accomplishments, primarily progress toward pre-situated objectives. It's more often than not carried out via software or agency administration. Performance measures may tackle the form or degree of software movements carried out (approach), the direct products and services delivered by a application (outputs), and/or the results of these products and offerings (outcomes) (Adeleye, 2015).

Liberda (2013) identified the relative importance of fifty one productivity factors which were classified into three groups as:

Human factors include: manpower, workers' boredom and fatigue, workers' attitude and morale, workers' physical limitations, workers' absenteeism, workers' experience, workers' skill and the team spirit of the crew, all are closely inter-related, one cannot do without the other.

External factors include: union rules and influences, adverse weather conditions, noise, dust, radiation, congested work area, change in drawings and specifications, changes in contract, demand for over-quality work and the nature of project (size and complexity).

Management factors includes: protective gear, unrealistic schedules, overtime, multiple shifts, disrespectful treatment of workers, salary and benefits, incompetent personnel, overcrowded work areas, poor inspection program, unsafe working conditions, inadequate equipment, inadequate supervision, crew composition, constructability, interruption and disruption, lack of cooperation between crafts, inadequate communication, lack of workers training and education, cleanliness of

construction site, changes in foremen, lack of detailed planning, and non-availability of information, materials, tools and equipment.

If the most important influencing factors in any contracting organization are identified, measures can then be taken to apply them in order to upgrade the woodwork craftsmen's' performance. The developmental process of any nation is largely a function of the emphasis placed on human resources development and utilization. Assessment is the systematic collection and review of data about a phenomenon for the purpose of finding the suitable means of improving it. The largest share of investment capital in all developing countries finds its way into construction (Smith, 2014). Unfortunately, the Nigerian construction industry is least developed in terms of mechanization, productivity and the benefits derived from industrial progress. There is an urgent need to embark on serious, well funded and coordinated formal training and retraining programs for artisans and craftsmen. Research was thus conducted to assess the effects of (formal and informal) training on the performance of construction craftsmen in Abuja Nigeria taking into cognizance the contents of those training in terms of duration, quality and relevance (Ochigbo, 2015).

1.2 Statement of the Problem

In assessing the performance of the industry Koko (2015) reported that the industry has a poor performance rating, it is too fragmented, individualistic and outdated in its operation and thinking. The impact of the craftsmen in the industry is very conspicuous in its end products, especially when competent craftsmen are involved. More, so where result of the industries is characterized by poor work, poor quality, low productivity, late completion, cost overruns, high accident rate, poor work practices and conflicts. The problem is linked to poor level of workmanship by the craftsmen (Abiola 2014). The woodwork craftsmen in the construction industry, they play a very significant role in the practical completion of any construction project, they are mostly engaged in

the technical aspect of construction and at the management level or supervisor; by interpreting the company policies into practical realization of the organizational goal of employer (Yindy, 2016). According to Jergas (2019) the improvement in construction productivity needs to be achieved through greater resource allocation and human resource efficiency, effectiveness and engagement as well as increased innovation and technology. The problem facing the industry is how to reconcile the need for a supply of manpower capable of high productivity in the carrying out of simplified step-by-step operations and, at the same time, retain a substantial number of craftsmen capable of highly skilled work. Training can be used to develop mental ability, dexterity and skills of personnel at all levels (Oladosu, 2016).

1.3 Purpose of the Study

The purpose of the study is to assess the training needs of woodwork craftsmen for effective performance in construction industry in Abuja, Nigeria. The specific objectives of the study is;

1. To identify the skills possessed by the woodwork craftsmen in the construction industry in Abuja.
2. To identify the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja.
3. To determine the skills improvement needs of the woodwork craftsmen in the construction industry in Abuja

1.4 Significance of the Study

The findings of the study will be beneficial to the woodwork craftsmen, the construction industries, the consumers and whole society at large.

The study might be of high-quality improvement to the building industries considering that they are going to enjoy the services supplied via the bricklayers a good way to receive the educational.

The training will help the bricklayers to lift their degree of productiveness using the proper procedure learnt in performing their mission on the web page. The development enterprise where these craftsmen are teach opens opportunity to gather vital talents for larger productivity. Training of development craftsmen is important to the construction enterprise for the reason that it tested that coaching beef up productiveness, Growth if executed will suffer the survival and development of an corporation of which building is one. Coaching has help the team of workers to do all of planning, organizing, main and controlling of resources crucial to meet organizational ambitions which in the order means circular equip character with critical capabilities and capabilities to be self-reliant, which remains oriented and creation of jobs opportunities.

The customers and the whole society will advantage from the project after completion; it's going to promote the durability of constructing projects in the society. It'll increase higher productiveness efficiency within the society. Training for potential constructing is valuable to maintain fiscal development and progress due to the fact that human capital is the finest asset of any group. Unless an sufficient provide of absolutely trained craftsmen may even be ensured, the manufacturer will proceed to fail to satisfy the needs of the market for an adaptive, progressive and able provider.

1.5 Scope of the Study

The research is delimited to the assessment of the training needs for the effective performance of woodwork craftsmen and professionals in building construction industries in Abuja, Nigeria. The study also hoped to cover the skills possessed, the skill needed foe effective performance and the strategies for improving the training needed for effective performance of the woodwork craftsmen in the construction industry in Abuja. The study will be carried out within the duration of eight (8) weeks.

1.6 Research Questions

The following research question were raised to guide the study.

1. What are the skills possessed by the woodwork craftsmen in the construction industry in Abuja?
2. What are the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja?
3. What are the skills improvement needs of the woodwork craftsmen in the construction industry in Abuja?

1.7 Research Hypotheses

The following hypotheses are formulated and tested at 0.05 level of significance.

H_{O1}: There is no significant difference between the mean responses of woodwork craftsmen and the management staffs on the skills possessed by the woodwork Craftsmen in the Construction Industry in Abuja.

H_{O2}: There is no significant difference between the mean responses of woodwork craftsmen and the management staffs on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja.

H_{O3}: There is no significant difference between the mean responses of woodwork craftsmen and the management staffs on the skills improvement needs of the woodwork craftsmen in Abuja.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Woodwork Trade

Technical Colleges are one of the principal technical and vocational institutions saddled with the responsibility for training craftsmen in Nigeria. These institutions play vital roles in Technological development in Nigeria. They are designed to offer theoretical and practical education for the acquisition of skills as well as basic scientific knowledge at the secondary school level (National Board for Technical Education, 2015). Technical Colleges are established to train craftsmen for industry as well as making individuals to be self-employed and create jobs in the struggle towards technological advancement. The curricula of Technical Colleges are centred on craft/engineering trades and agriculture which includes Agric-mechanisation, motor-mechanics, Building Construction, Electrical Installation, Metalwork, Plumbing, and Woodwork among others. There is increased demand of Training the unemployed youth with vocational and technical skills for self-employment which led to the establishment of more Technical Colleges where woodwork trade is taught.

Woodwork trade is referred to as activity that involved skills for the production and servicing of wooden articles. According to Hornby (2000), woodwork is also seen as the activity or skill of making objects from wood by woodwork craftsmen. It is an integral part of Technical Vocational Education and Training (TVET) programme. Okwori *et al.,* (2013) stated that, training students in woodwork trade should be geared towards achieving the aims and objectives of the programme which include:

1. To secure employment at the end of the programme as craftsman.

2. Set up their own businesses and become self-employed and able to employ others.
3. Pursue further education in advanced craft technical programme or in tertiary technical institutions.

Federal Republic of Nigeria (2014) identified areas of woodwork as follows: carpentry and Joinery, furniture making and Upholstery. The emphasis of government on skills acquisition led to the establishment of institutions that emphasise skills acquisition at all levels of educational system (Ogbu, 2017). Among these institutions are the Technical Colleges that are expected to have workshops for various trades offered and must be well equipped as to enable the transfer of practical skills to the learners for construction of wooden projects.

Workshop is a work area with fixed or portable metal or wood-working machineries where the primary function is to fabricate or machine materials. According to Jibril (2014), a workshop is an area, room or building where machines, equipment, hand tools, work benches and materials are used in the manufacturing or repairing of things. A wood workshop is a building where tools, machines and wood materials are used in the production of wooden articles under the guidance of woodwork teacher. To improve the teachers abilities, workshops are expected to be well equipped and coordinated to enable woodwork teachers teach woodwork skills effectively. Abba (2018) expressed that woodwork technology by its nature, requires the establishment of uniformity of working conditions, operation and motion sequences, materials, workshop arrangement, tools and equipment for teachers to carry out their duties effectively. Nwokolo (2016) opined that teacher's activities in wood workshops include: the effective use of hand tools; operation of machines; supervision of student's activities; demonstration and maintenance of tools and equipment. Teachers' and students' activities in wood workshops are solely on skill transfer that make individual acquire manipulative techniques for self- reliance.

Skill is the capability of accomplishing a job with precision of certainty, practical knowledge in combination with ability, cleverness and expertness (Abdullahi, 2015). This shows that skill is applicable in every field of human activities. Acquisition of skills is therefore necessary especially in teaching woodwork trade that involves instructive and manipulative skills. To increase the chances for self-reliance and employability, woodwork teachers must help students to acquire skills that are flexible and relevant to the demands of the present day. If such diverse expectations are to be met, substantial improvements are required. Woodwork trade teachers responsible for preparing the skilled personnel should possess the necessary skills for the construction of wooden projects in terms of preparation of timber to size, marking-out and cutting of wood joints. Other skills needed in the production of woodwork project involves application of adhesive and assembling, finishing techniques and maintenance of tools and equipment, which are the foundation of skills development in woodwork practice.

A woodwork project refers to an article made from wooden materials by a woodworker that required being prepared to specification to give the desired size, shape and colour for a specific purpose. The part members are needed to be prepared by planing of faces and edges and cutting off ends. Planing is the smoothing of surfaces and edges of rough sawn timber by taking off shavings with planes or machines (Walton, 2016). It is the removing of imperfections on the piece of rough sawn wood to make it smooth and attractive. Cutting also describes the action of a saw which separates wood fibres in the process of cutting wood, (John, 2014). This is necessary for a perfect joint to be made. Joints in woodwork are devices for holding parts of wooden structures together firmly (Sackey, 2015). It involved cutting of members to fit into each other according to the type and method of assembling. When joints are, they are collected together to make a whole

using bonding substances. To make the body more attractive, decorating and protecting the surface has to take place by a process called finishing with brush, spray or roller. Choosing a particular finish is influenced by the function of the project (Wick, 2018).

The continuous use of woodwork tools render them inefficient to perform optimally, as such maintenance is required. It is carried out as a supporting service on any device to prolong its serviceable life (Parrish, 2016). It involves the systematic supply of necessary materials for the continuous operation of given equipment which includes; Lubricants, grease, fluid and water. Therefore, it is important for a woodworker to possess these skills to enable him pass same to the learners for effective learning in wood workshop. These skills seems to be lacking in the woodwork craftmen judging by the poor performance of craftsmen in practical aspect of the trade. Although the government has done much to improve the quality of training given to wood craft practice students by establishing new Technical Colleges and procuring tools and equipment. Ogundeji (2014), opined that the problem facing technical institution in Nigeria is that of production of unskilled technical personnel who cannot function effectively in the society. Ogundeji further stressed that, the above situation is attributed to lack of skills on the part of technical teachers or they are weak in teaching practical skills in their school wood workshops.

2.1.2 Construction Industry

The construction industry occupies a sensitive position as it is perceived to play an essential role for continuous growth of both the developed and developing nations (Ofori, 2016). The role of the sector is very important because of its output and due to the achievement of socio-economic objectives such as shelter, infrastructure and employment opportunities (Usman *et al*., 2015). The vital role played by the construction industry cannot be over emphasized as it is vivid that the

activities of the industry impact almost every aspect of the economy which is also responsible for about 16.0% of Gross Domestic Product (GDP) and employs approximately 25.0% of workforce in Nigeria (Ayangade *et al*., 2018).

Construction Industry irrespective of their sizes have been a source of economic growth through its huge creation of job opportunities, creation of wealth and innovation by bringing in strategies that are competitive and set them apart from other organization (Ajagbe *et al*., 2018; Ismail *et al*., 2017). This opportunity offers the firms the capacity for good service delivery so as to satisfy the demand of clients by putting in place innovative approaches (Abdullah *et al*., 2011). The ability of firms to minimize costs also makes many large contractors choose to utilize their services to assist in the completion of projects which act as subcontractor within the supply chain. Osei (2015), argued that the intentive nature of labour in construction activities in Nigeria was attributed to the predominance of large number of construction industry that depend mainly on both skilled and unskilled manpower for their activities.

Craftsmen in the construction sector play a very essential role to the survival and development of the sector as they are directly involved in construction operation (Medugu *et al.*, 2018; Rafee, 2017). Even though Nigeria is endowed with ample manpower, authors posit that the situation in the sector is at best sarcastic. Fagbenle (2014) and other researchers reported that the industry is the highest employer of the nation's manpower after agriculture, whereas it is still faced with shortages of technically skilled craftsmen which affect productivity, work quality, projects duration and overall organizational profit (Ruchi, 2014; Kuroshi and Lawal, 2014; Alinaitwe *et al*., 2017; Durdyev and Mbachu, 2018).

There is a persistent accusation that the construction industry in Nigerian is wasteful, inefficient and fall short of quality, quantity targets, and often fail in meeting delivery dates. Ede (2010b),

Dantong *et al*. (2016) and Ayedun, *et al*. (2016) believe this accusation is due to poor standard of workmanship because of incompetent personnel. They opine that this peculiar issue can be traced to the unwillingness of employers to set up sound training programs for their workforce. Training for development of capacity is key to sustain economic development since human capital is said to be the greatest asset of any organization (Osei, 2015; Dantong *et al*., 2016). Ironically, the emphasis of most organizations in Nigeria is very narrow, because majority of them focus more on maximizing profits neglecting the workforce that generates such funds (Bilau, 2015; Long *et al*., 2015). This is among the many issues confronting the training of craftsmen as most construction firms hardly discuss about how to improve the manpower but on how they will exploit the workforce. Probably this contributes to the poor performance of the sector. As a result of this, Ugheru (2016) noticed that there is an extremely high shortage of technically skilled labour construction sector of Nigerian.

2.1.3 Impact of Skilled Craftsmen to the Development of Small and Medium Construction Firms

Medugu *et al.* (2017) mentioned that where highly capable personnel is utilized, the impact of skilled craftsmen in the industry is very visible in it ends products. This is because they are directly involved in speedy realization of construction projects delivery since they are involved in the technical aspect of such contract. However, where qualified skilled craftsmen are involved, it tends to eliminate the concern of poor quality, low productivity, late project completion which often result to conflicts, cost and time overruns. Abiola (2016) believe that this problem is mostly attributed to poor level of workmanship which normally results to rework of defective or unsatisfactory work done by incompetent skilled craftsmen. In addition, skilled craftsman also helps to raise productivity, reduction of accident, less supervision, increased organization stability

and flexibility. The impact of skilled craftsmen availability has been sufficiently reported in the literature with the ever increasing pressure on construction contractors to deliver projects of desired quality, cost and on schedule time (Olomolaiye and Ogunlana, 2016; Ugheru, 2016, Medugu, 2017). The importance of more skilled craftsmen in the industry cannot be under-rated as they have the potential of eliminating inefficiencies arising from poorly constructed projects. Bustani (2018) opine that the quality and availability of skilled workforce is considered an important factor in the effectiveness of the construction sector. Hence, various research have investigated the existence of unskilled craftsmen in the Nigeria construction industry (Ndibe *et al*., 2016; Kazaure, 2018; Wogu, 2016). The insufficiency of technically qualified personnel in the face of increased demand has led to a situation where the big contractors are considering investing in training and development. In Nigeria, the demand from clients for higher quality building has also raised some concern amongst contractors about inadequacy of skilled and qualified manpower, this has in addition resulted to the renewed interest in training and development. In view of the rising influx of contractors from abroad who have posed as a challenge to local builders by setting higher quality standards (with many high-rise buildings). This indicates that local contractors have no choice but to raise their standards and quality of work. This goes further to show that training is fundamental to meeting the skill requirements of the construction industry employees. However, training must be demand –led, that means that it must be needed, wanted and feasible (Muya *et al*., 2016). In addition, if the market does not demand and value skills, then there is a danger of training people not finding work or not finding adequate remuneration for the skill that they have acquired. If this happen, they will then be lost to the industry and probably to the country as they migrate in search of better employment opportunities overseas. The implication is that for training to be relevant it should be both demand led and directed towards the upgrading

of skills of those who are already on the job or with the assurance of finding suitable jobs (Muya *et al*., 2016).

A skill is an ability to perform a productive task at certain level of competence posit that as a skill is associated with a particular task, a person who does not possess such a skill is unlikely to be able to carry out such task or will be less productive than somebody who does possess this skill. They added that skills are often associated with a qualification and its acquisition through formal and informal training and on-the-job experience (Darren *et al*., 2012).

Darren *et al*. (2012) consider skill shortage to occur when the demands for workers for a particular occupation is greater than the supply of personnel who are qualified, available and willing to work under existing market conditions, and if the supply is greater than demand then there is a surplus. Awe (2015) contributed that a shortage may be evident only in particular specialization in an occupation, it does not have to be across the whole occupation. In addition, it may also be restricted to particular locations. He put forward that overtime the market might adjust in a number of ways, including price and or quality adjustment, and the imbalance clears. In practical work, shortages have always been interpreted or even defined directly in terms of difficulties in filling vacancies. Ajagbe *et al.* (2018) suggested that employers may report shortages of particular workers, or difficulties in filling vacancies, either because there are not enough of them or else those who are available do not possess skills deemed necessary by employers, such as computer literacy. Shortage of the first type is quantitative while those of the second type are qualitative. In competitive labour market employers accept candidates whose skills do not match the ideal. However, from the perspectives of the employers shortages occur, but from the perspective of

the market the positions were filled and hence no shortage exists. Conversely, in a slack labour market if over-qualified people fill positions then the market may not show an imbalance ().

2.1.4 Causes of Skilled Craftsmen Shortage in Nigeria

The challenge of skilled workforce shortage is a critical threat to the economic health of many nations around the globe. Medugu *et al*. (2017) mentioned that skilled labour shortage impact different areas of construction activities and impact on time, cost and quality of work. He opined that this may also endanger the achievement of financial prosperity for which such projects are conceived. Nigeria as a country undergoing economic reform needs a productive, competent, and flexible workforce to further her economic growth. Dantong *et al*. (2016) however uncovered that skilled woodwork craftmen shortage is not a shortage of workers rather it is a shortage of adequately trained, skilled, and productive workers available for certain jobs. Attar *et al*. (2015) pointed out some reasons attributed for such shortage as lack of training and retraining, an aging workforce, and the construction industry that does not appeal to young, potentially qualified manpower. Furthermore an increasingly poor image over the last couple of decades has discouraged young people from seeing the construction industry as a viable career path. Ankrah (2017), sees this as the most pressing issue in the nation's construction sector which is already having serious implications for both businesses and the economy generally. In view of these, there is an urgent need of up-skilling construction skilled craftsmen in order to address the issues of poor workmanship.

According to Bustani (2017), the quality and availability of skilled workforce is considered an important factor towards the effectiveness of the construction sector. However, various reports have indicated the existence of shortages and poor quality of craftsmen in the Nigerian

construction industry (Dantong *et al*. 2017; Long *et al*., 2017). Some reasons attributed for such shortages includes; aging of skilled craft workers in the industry, decline in the number of new entrants into skilled trades, poor finding and ineffective state of vocational education and training / retraining system in the country. Others include

1. Poor image associated with construction labour as work done by less intelligent people
2. Lack of commitment by government and the construction industry towards skills training.
3. In addition the development, introduction of new technologies and materials requiring higher skills among others (Awe, 2016; Bokinni, 2015; Darren *et al*., 2016).

2.1.4.1 Lack of organization training and retraining of skilled craftsmen

Training for capacity building is central to sustain economic growth and development because human capital is the greatest asset of any organization (Long *et al*., 2017). Surprisingly, most construction firms in Nigeria are very narrow, because they seem to focus on the financial gains forgetting the people that make the job and money. Dantong (2017) posit that these are among the multiple problems of craftsmen training as most construction firms in Nigeria hardly discuss about how to improve the workforce but on how the workforce will improve them. Onuka *et al*. (2016) portends that the absence of craftsmen training and retraining programme in an organization often manifests tripartite problems if incompetence, inefficiencies and ineffectiveness. Therefore, without a training policy provided by an organization the tripartite problems earlier mentioned will be imminent. The author suggests that training and development should be viewed as veritable tools that help to improve the outdated nature of the construction industry in to a modern construction industry through updating of staffs and manpower development.

2.1.4.2 Aging of skilled workforce in the industry

This is one of the greatest challenges currently facing the construction industry, as the current average age in trained craftsmen and artisans in the sector is between 45-50 years and fewer skilled workers are available to replace the aging workforce. Dantong *et al*. (2017) believes that if this trend is not checked, in the nearest future craftsmen and artisans that really worth their onion would have gone into extinction.

2.1.4.3 Rapid change in technology

The construction industry all over the world is experiencing rapid changes in technology. Dubem *et al*. (2014) views this reason is not far-fetched because of the ever increasing sophistication in this age of computer technology which has made it compulsory for organization to meet changing situations with globalization in the construction industry and client demand. Okuntade (2014) highlighted that the construction industry all over the world have been adapting to the sporadic change in technology with skills acquisition programme to meet demands. Despite this change most construction companies in Nigeria are yet to adapt to this trends. This however, hast these has great constraints and influence on the workforce (Dubem *et al*., 2014). For the construction industry to be able service the economy, it has to parade competent hands in its operation, which includes credible consultants and contractors with qualified and competent craftsmen (Dantong *et al*., 2017).

2.1.4.4 Poor remuneration of skilled craftsmen

This is a major reason the construction industry is having problems of attracting and retaining skilled workforce. In Nigeria, there is no regulation guiding minimum wage for construction

workers. Fagbenle (2014) put forward that different wages are paid in across the country. This issue prompt construction worker to pursue other career or migrate to where they will be better remunerated. The nature of the construction industry is a contributing factor that makes it difficult for construction workers to join trade union. This informs the reason wages cannot be jointly negotiated, as it is in the case in government establishment. The workers in turn do not work with full loyalty in this respect (Fagbenle, 2014).

2.1.4.5 Lack of motivation of skilled craftsmen

Human potential is boundless but it requires motivation in order to excel (Fagbenle, 2014; Dubem *et al*., 2015). Motivation is an art of inspiring someone to work (Solomon *et al*., 2015). Ironically, majority of construction firms in Nigeria do not motivate their skilled workforce for improved productivity. Since lack of motivation has always resulted to high staff turnover in the industry. Fagbenle (2014) opine that motivation of skilled workforce can be achieved in many ways, but whatever method is adopted, it must be realized that economic rewards must be among the chief consideration. It is therefore necessary that a sound wage policy is laid down with well-structured incentive and bonus plan. Ugheru (2016) finds that other considerations to aid motivation include: financial incentives, promotion, job security, welfare package, and participation in decision making and among others.

2.1.4.6 Lack of appeal to young, potentially skilled workers

The construction industry lacks appeal to young, potentially skilled workers which increasingly give poor image associated with construction labour as work done by less intelligent craftsmen (incompetent craftsmen). Darren *et al*. (2012) thinks this is due to the inefficiencies which lead to poor workmanship that result to rework that brings about cost and time overrun. Poor image and

career paths over the last couple of years has discouraged young people from seeing the construction industry as a viable career path. According to Awe (2016) the Nigerians youth no longer show interest in skill acquisition unlike the case in developed countries such as the UK where reports indicate that demand from young people for apprenticeships is outstripping the number of training places available in the industry.

2.1.5 Implications of Skill Shortages on Productivity, Cost, Time, Quality and Project Success

Labour is a major component of construction work in Nigeria. Unlike in developed economies such as the UK, USA and Germany where operations on construction sites are highly mechanized. Construction work in Nigeria is low tech and labour intensive. Solomon *et al*. (2015) defined productivity as the amount of products or services produced compared to the amount of goods or labour used to produce them. In construction, labour productivity is better known as labour output and is measured as the amount of work done over a period of time. Olomolaiye and Ogunlana (2015) observed that production outputs in key building companies in Nigeria were lower than they ought to be. Reasons for this were linked to inefficient methods, lack of appropriate tools and poor supervision. This agrees with a study carried out by Alinaitwe *et al*. (2017) which ranked incompetent supervisors and lack of skills of the workers as the two most significant causes of low productivity of construction workers in developing countries.

2.1.5.1 Poor workmanship

Several authors including (Aniekwu & Okpala, 2018; Kolawole & Frank, 2014; Medugu *et al*., 2017; Dantong *et al*., 2017; Bilau *et al*., 2014) agrees that poor workmanship is one of the

problems that the Nigeria construction industries are facing as the use of incompetent craftsmen lead to poor workmanship. Poor workmanship could result to rework due to incompetent craftsmen, though there are many factors that leads to poor workmanship, but that would not be discussed, only rework which result to cost and time overruns in project delivery process and has become a cankerworm within the Nigeria construction industry.

2.1.5.2 Rework

Rework in construction projects is referred to as the unnecessary effort of redoing a process or activity that was incorrectly implemented in the first instance (Ekambaram, 2016; Abdullah et al., 2016). In construction projects, rework which lead to cost and time overruns can result from an array of factors such as poor workmanship by incompetent craftsmen, errors, omissions, failures, changes, poor communication and poor coordination. To some extent, the level of rework in construction projects would be depend on external factors such as excessive workload, market conditions for instance, increased defects and from limitations on the availability of competent subcontractors (Adamu *et al*., 2014; Dai *et al*., 2018; Enshassi *et al*., 2017). Rework and wastages are considered as non-value adding endemic symptoms that could adversely affect the performance, productivity and ultimately profit margins (Ekambaram, 2016; Abdullah *et al*. (2015). Some Previous studies indicated that the costs of rework in poorly managed projects can be as high as 25% of contract value and l0% of the total project costs (Abdullah *et al*., 2012).

2.1.5.3 Significance of reducing rework

Durdyev and Mbachu (2016) posit that project rework occurrences adversely impact project performance in such areas as costs, time and stakeholder satisfaction. Hanna *et al*. (2008) finds that the direct impact of rework on project management transactions include;

(a) additional time to rework

(b) additional costs for covering rework occurrences

(c) additional materials for rework and subsequent wastage handling

(d) additional labour for rework and related extensions of supervision.

2.1.5.4 Time overruns

Ijigah et al. (2017) opine that time overrun is one of the causes resulting from rework which adversely affect performance, productivity and ultimately profit margins. The problem of project time overrun is of international concern. As numerous studies related to causes of time or cost overruns have been conducted worldwide and mostly in developed countries (Ijigah, *et al*. 2017). According to Hewage and Ruwanpura (2016); Ibeanu (2015) and Kazaz *et al*. (2018) time overrun is the extension of time beyond planned completion dates usually traceable to contractors. Ugwuja (2016) defined it as the time lapse between the agreed estimation or completion date and the actual date of completion. Odesola and Idoro (2014) describe time overrun as the time during which some part of construction project is completed beyond the project completion date or not performed as planned due to an unanticipated circumstance. Time overrun affects the project owners, contractors and other project participants. Project owners may be affected through lost benefits that could have accrued from the completed facility, while contractors may have to spend more on labour and plant, pay penalties as per the contract or even lose other profitable contracts because resources for the next job are tied up on delayed projects (Lawal *et al*., 2018; Odesola *et al*., 2019; Olatunji *et al*., 2007)

2.1.5.5 Cost Overrun

Odesola *et al*. (2014) and Ijigah *et al* (2012) posit that cost overrun is also one of the causes resulting from rework which adversely affect the performance, productivity and ultimately

the profit margins of the construction work. Awe *et al*. (2010) contributed that rework also triggers claims for extra costs and time wasted in redoing or repairing defects by direct impacts of rework on project management transactions which include (a) additional time to rework (b) additional costs for covering rework occurrences (c) additional materials for rework and subsequent wastage handling (d) additional labour for rework and related extensions of supervision manpower (Oyelere, 2017; Wang, 2018; Awe *et al*., 2015)

2.1.6 Need for training craftsmen in Nigeria

Awogbenle and Iwuamadi (2015) and Cheung *et al*. (2013) defines training as an organizational effort to change the behaviour or attitudes of employees so that they can perform to acceptable standards on the job. Awe *et al*. (2011) added that training seeks to achieve improved human productivity by increasing the ability level of the work force. Training is giving teaching arid practice to personnel in order to bring him to a desired standard of behaviour, efficiency or physical condition (Obiegbu, 2014). Furthermore, training involve submitting a person to discipline and instruction, to educate, to bring up, rear in habits of good behaviour and conduct. Obiegbu (2014) believes that the nature of human resource problem and its pervasive effects indicate the need for extraordinary action to upgrade managerial and technical skills, broaden their range and increase their totality. Education and training are, consequently, needed at all levels and across a wider spectrum of technical discipline. Bokinni (2015) suggested that what is required more than ever before is a highly trained cadre of personnel who are alive to the needs and realities of their own societies, sensitive to cultural values of intrinsic worth, conscious of the social nature of design and imbued with philosophy, which leads to the efficient use of indigenous materials and techniques.

Ness (2019); Oyegoke *et al*. (2019) observed that construction participants, contractors inclusive are faced with challenges which amongst others include higher clients' requirements through increasing complexity of modern construction projects, impact of computerization and would be the attainment of organizational goals. Dantong (2017) argued that training offers the platform for enhancing the potentials of the contractor craftsmen through the improvement on their skills and consequently contributes to contractors' performance in the construction industry.

2.1.7 Effects of Training on Productivity Improvement of Woodwork Craftsmen

Solomon *et al*. (2012) mentioned that productivity improvement of woodwork craftmen is a central challenge for the construction industry in all types and sizes of organizations. companies are being asked to get more mileage out of all their resources: human, financial, information, and materials. Productivity is an output - input ratio. Abiola (2016) added that inputs include all resources consumed to produce those outputs. Labour is one of the input resources consumed but so too are capital, material and energy. Productivity is reaching the highest level of performance with the least of expenditure of resources. It's ultimately the ability to produce the desired result. Training offers the craftsmen the ability to perform their work effectively and efficiently and these qualities are recipe for workers' productivity (Bilau *et al*, 2014; Abiola, 2016). Therefore woodwork craftmen when employed must be trained to the industries standards while those already employed must be constantly trained and retrained in order to improve on their productivity.

2.1.8 Methods of Training

Retraining is the same in all ramifications as training. The two has the same processes and means. Bokinni (2015) argued that they all refer to the process of imparting skills, learning the use or

application of knowledge to work. Different methods, means or processes by which the objectives of the training or retraining program may be met are available. Ugwuja (2010) and Odesola and Idoro (2014) suggested that the most frequently used means of training or retraining are: job instruction training, conference or discussion, apprenticeship training, job rotation, coaching and lecture. Awe (2016) identified the following four methods of training: on the job training, class room training, vestibule training and management development training. Dantong (2017) also identified some type of training as, sink or swim method, time release training, sensitivity training, trade group training programmes and developmental training. Some of these methods are briefly discussed.

2.1.8.1 Classroom training

This method of training provides for handling the maximum number of trainees with a minimum number of instructors (Solomon *et al*., 2016). It lends itself particularly to instruction in areas where information and instruction can be parted by lectures, demonstrations, films and other types of audiovisual materials. Classroom method of training is also a means of continuing professional development.

2.1.8.2 Trade group training

Solomon *et al*. (2016) found that when work groups of many employees are added to the site force at the same time, considerable economy can be achieved by carrying out a large part of the training in formal classes. However, Dantong (2017) opine that such a produce has certain benefits on interviews and conferences and makes possible utilization of different forms of training techniques. Instruments used in training includes: lectures; charts and graphs; group

demonstrations; manuals and handbooks; motion picture films; sound slides written assignment and examinations; analysis of case studies; and group dynamics or role playing.

2.1.8.3 Apprenticeship training

Zou *et al*. (2018) argued that apprenticeship training is a system of training in which the young worker coming into the industry is permitted to go through instruction and experience, both on and off the job, in the practical and theoretical areas of the work in a skilled trade. The researchers further mentioned that this form of training is based on voluntary cooperation between management and labour, industry, government, the company and the school system. Though the technique of training is often adopted for low level skilled personnel.

2.1.8.4 On the –Job- Training

On the Job Training (OJT) can also be referred to as Job Instruction Training. It is the most commonly used method of training employees. Awe (2016) posit that OJT involves training of employees for job tasks by allowing them to perform such tasks under guidance of an experienced worker. This can be in the form of formal or informal method of imparting knowledge and skills.

2.1.8.5 Crafts Apprenticeship Courses

Long *et al*. (2013) described apprenticeship as training for occupations in the category of skilled craft. They opine that such programmes consist of OJT and work experience with related instructions in the theoretical aspects of the apprentice on the job, which improve steadily during the period of a well programmed training (Dantong, 2017).

2.1.8.6 Vestibule Schools

A Vestibule School is one operated as a specialized endeavor to train for the same type of job as OJT. The Vestibule School is identical to the work situation, after training, trainee is handed back to his supervisor (Ugwuja, 2010;Umar, 2015; Odesola and Idoro, 2014)

2.1.8.7 Conference or Discussion Method

The conference or discussion group has several uses. Umar (2015) believe that when this technique involves a group of equals, it is primarily a means of sharing and developing ideas, rather than a training device. However, the conference can be transformed into a tool for disseminating information, simply by bringing a group of trainees together with a trainer discussion leader.

2.1.8.8 Sink - Or Swim Method

This method of training allow employers to place a new and inexperienced employee on a site to work, and let him pick up the information, that he needs informally as best he can, merely by observing and listening to others who are involved in the work he is expected to do (Datong, 2007; Long *et al*., 2013). This method according to Dantong (2017) is the least efficient, most wasteful, and in the long run, most expensive alternative.

2.1.8.9 Time Release Training

The Industrial Training Fund developed this form of training because it is applicable to situations where apprentices who had earlier received basic training now requires to attend training sessions at a centre for few hours or one day in weeks to advance and/or update their knowledge and skills (Dubem *et al*., 2018).

2.1.8.10 Apprenticeship Programmes

Long *et al*. (2013) potends that this tends toward more education on the job training, knowledge and skill in doing craft or series of related jobs involved. They argued further that such

apprenticeship programmes must be registered with appropriate government authorities. Awogbenle and Iwuamadi (2016) added that these programmes last anywhere from two to five years and are available in crafts-like mechanics, electricians, pipe fitters, carpenters and so on.

2.1.9 Evaluation of Training

Long *et al*. (2013a) and suggested that training and development programmes should always be assessed based on known evaluation approaches which include measuring one or more relevant criterion (such as attitudes or performance). This could be done before' and after the training and determining whether the critical changed. Evaluation measures collected at the end of training are easy to get, but actual performance measures collected when the trainee is on the job are more important. Odusami and Ene (2016) reported that trainees may say that they enjoyed the training and learned a lot, but the true test is whether their job performance improved after their training. According to Cheung *et al*. (2019) training is believed to have "worked" if it accomplishes its objective. Since the training objectives are to be derived from the strategic objectives. However, training is only one of dozens of factors that determine if an organization accomplishes its strategic objectives (Solomon *et al*., 2012), and one that is often far removed in time from the final result. To harness training effectiveness more measures of success is required and the need to measure the time the training was completed.

2.1.10 Post Training Evaluation

Dennis (2017) opine that training observations involve a four step process called job instruction training, and it requires that trainees during training be: told how to do it, shown how to do it, asked to perform the behavior and; given a review of their performance until correct behavior is learned. For training to be' effective and efficient evaluation of the whole process is inevitable.

Connor (2014) supported that the evaluation process in training involves the following four elements:

Reaction - How well did the ‘conferees ‘like the program? This is essentially customer satisfaction measurement. Reaction is usually measured using comment sheets, surveys, focus groups and other customer communication techniques.

Learning - What principles, facts, and techniques were learned? What attitudes were changed? It is entirely possible that conferees react favorably to training, even if learning does not occur. The learning of each conferee should be quantified using pre - and post - test to identify learning imparted by the training.

Behaviour - What changes in behavior on-the-job occurred? If the conference leaves the seminar and immediately begins to effectively apply control charts where none were used before, then the training had the desired effect on behavior. However, if the conferee’s tests indicate that there is gained competence in the subject matter from the training, but no change in the behavior took place, the training investment was wasted. Note that behavior change is dependent on a greater number of factors besides the training, example; management must create systems where the newly learned behaviors are encouraged.

Results - What were the tangible results of the program in terms of reduced cost, improved quality and improved quantity. This is the real payback on the training investment. The metrics used for measuring results are typically built into the action plan, project plan and budgets etc. Again, as with behavior change, there are many factors other than training that produce the desired results (Long *et al*., 2013).

2.1.11 Relevance of Woodwork Craftsmen Training

Medugu *et al*. (2017) reported that training for construction craftsmen's creates opportunity to acquire relevant skills for greater productivity. They authors argued further that training of this group of personnel are imperative to the construction industry because it has been confirmed that training improve productivity. However, they assert that improvement if achieved will endure the survival and growth of an enterprise of which construction is one. Dantong *et al*. (2017) supported that training in order way round equips individual to be current and relevant with necessary skills and knowledge to be self-reliant, which remains oriented and creation of job opportunities. Odesola and Idoro (2014) summaries major values of training as:

i. Increased Productivity: Increase in skill usually results in an increment in both quantity and quality.
ii. Heightened Morale: Possession of needed skills helps to meet such basic human needs as security and ego satisfaction.
iii. Reduced Supervision: Trained employees can perform with limited supervision.
iv. Reduced Accidents: More accidents are caused by deficiencies in people than by deficiencies in equipment and working conditions, proper training reduces the accident rate.
v. Increased Organization Stability and Flexibility: The ability of an organization to sustain its effectiveness despite the loss of key personnel can be developed only through creation of a reservoir of trained replacements. In addition flexibility is the ability to adjust multiple skills to permit their transfer to jobs where demand is greatest. However, the biggest organizational asset is trained and motivated personnel.

2.1.12 Factors Militating Against Training of the Nigerian Woodwork Craftmen

Osei (2018), in an appraisal of staff coaching of the globally expressed hindrances militating against educating that influences all as follows:-

Lack of Implementation of coaching coverage insurance policies through companies: Most companies like greater to recruit operatives they suppose can now not want training, it's a are living been adopted by way of utilising some managers to chop down price. Most building enterprises would not have a coaching programme, and individuals that have, not often put in force these insurance policies and programmes in teaching (Osei, 2018).

Lack of help and encouragement from the corporate on coaching: Osei (2018) disclosed that the majority departments within the housing manufacturer learn coaching as a capital intensive company that expand overheads to their manufacturer, few establishments World health organization very stated the significance to coaching read it as AN incentive in the direction of achieving customer pride for this reason operate a promoting mechanism that will enhance the manufacturer's economic reap within the lengthy-term.

The subject of Craftsmen making use of for immaterial Fields of Be trained: Osei (2016) disclosed that program for immaterial coaching programmers is original to the junior staff of the country wide Institute Kuru, of that the junior technical employees (Craftsmen) are majority.

Lack of money: per Osei (2018). Financial situation or lack of money could avert a person from present process training notably anywhere it entails repayments of expenses then on. Nonetheless the main fundamental challenge is that the temperament and interest to undergo training is most preponderant.

Lack of powerful restrictive body

Lack of abundant encouragement and help from govt for the learning of development craftsmen.

Coaching might be capital intensive and because of the "discontinue go" perspective of the development industry most operatives infrequently sponsor themselves for a coaching direction.

Lack of organizations investment on skilled craftsmen training

Lack of planning and implementation of training policies by organizations

Influx of migrant skilled workers

Workers reluctance to invest on their own training

Contractors reluctance to embark on craftsmen training

2.1.13 The Effects of training and Productivity Improvement of Woodwork craftmen

Productivity is any output that enter quantitative relation. Inputs include all belongings consumed to provide these outputs. Labor is one amongst the input property consumed nonetheless as a result too are capital, fabric and vigour (Abiola, 2014). Productiveness is accomplishing the very best stage of efficiency with the smallest quantity of expenditure of assets. Productiveness, ultimately, is that the ability to furnish within the wish to furnish. Coaching presents the woodwork craftsmen the power to take part of their work easily and expeditiously and these traits are course for staff productivity. woodwork craftsmen will have adhere to the advised of the industries requirements whereas those already utilized ought to be forever proficient and retrained as a way to increase on their productiveness. Training goals at dynamical the habits at the work position into potency and better efficiency standards. Essential values of coaching from the greater than reviews are: gathered productivity- increase in ability in general ends up in an increment in each and every quantity and exceptional.

A). Heightened Morale - Possession of required capabilities helps to fulfill such basic human desires as security and ego delight.

B). Decreased oversight - educated employees will participate in with restricted oversight.

C). Proper teaching and dealing situation – additional accidents are triggered via deficiencies in people than via deficiencies in instrumentation and dealing conditions, proper coaching reduces the accident price.

D). Gathered group stability and suppleness - the vigour of an organization to preserve its effectiveness regardless of the lack of key personnel will regularly be developed exclusively by the use of building of a reservoir of educated replacements. Flexibility - the vigour to keep watch over more than one potential to allow their transfer to jobs anyplace demand is finest. The most important structure plus is trained and actuated personnel.

e). Motivation to staff towards project completion

f). correct and beforehand material procural and management

g). In time payment to the staff

h). Systematic flow of labor

i). Proper, clearly & in time oversight and Maintain work discipline

j). Advance web site layout

k). Facilities to the Laborers

l). Clearance of legal documents before beginning of labor

m). Systematic coming up with of funds beforehand

n). most use of machinery and automation system

o). Advance instrumentation coming up with.

A

2.2 Theoretical Framework

2.2.1 Theory of Skill Development

Newell (1999) propounded skill development theory which states that "as a learner acquire skills, changes may be observed that reflect strategies that an individual uses to achieve specific movement outcomes". He further observed that skill development is a process in which a performer learns to control and integrate posture, locomotion and muscle activations that allows the individual to engage in a variety of motor behaviours that are constrained by a range of task requirement. A learner may show a change in the special orientation of body limbs as well as exhibit a change in the timing and sequencing of movement. This implies that, motor skill acquisition follows a pattern which learning accumulates with practice.

Newell's theory is related to this study as it emphasized that skill development occur through the acquisition of skill which will result to changes that may be observed and reflect strategies that an individual uses to achieve specific movement outcome. One common feature of all the components is that the skills deal with the acquisition of performance ability which enables a skilled individual to perform at the most economic level. The ability to act, think or behave in a particular way, particularly in a way, which has become part and parcel of the individual is the main aim of the acquisition of skills development especially in furniture craft technology practical projects. In support of the above assertion, Ezewu (2003) remarked that in learning a skill, about 65 per cent of the time should be spend in practical, to obtain functional technology in technical colleges. He recommended that a well-equipped furniture craft workshops and functional machines must be provided, this will enable the individual to marry theory with practice.

2.2.2 Required Assessment Theory

The required assessment theory was propounded by Good and Brophy (1997). The theory stated that "A required develops and motivated behaviours only if an individual is expose to a certain pressure which is require to be assessed; the desire to satisfy or gratify these needs directs or dictates human behaviour". Some individual theorists have made greater inputs with their conceptual scheme motivation which have implication for classroom teachers. Reisebry (1990) has noted that personality development can be described as a combination of a press and a need. According to Reisebery each theme in an individual life is characterized by the existence of a require in relation to a particular press, a stimulus situation that has a potential influence upon the life of the organism.

Abraham Maslow developed the hierarchy of needs in 1940-1950s, and the hierarchy of need theory remains valid today for understanding human motivation, management training, and personal development. Indeed, Maslow's ideas surrounding the hierarchy of required concerning the responsibility of employers to provide a work place environment that encourages enables employees to fulfil their own unique potential (self-actualization) are today more relevant than ever.

In his own view, Cannon (1991) saw need gratification as the basis for human behaviours. He urged that required are arranged in a hierarchy of their existence or importance. These required include aesthetic required, desire to know, self-actualization required, esteem required, love and belonging required, safety required and psychological required. Thus as one general type of require is satisfied, another higher order of needs will emerge and become operative in life. These levels of required are also classified into being required and deficiency required. The deficiency required

can be satisfied only by others. This shows that an individual can depend on others as a source of need gratification. That of self-actualization desire to know and aesthetic required are the being needs.

Kaufman (1998) said that required assessment is the formal process of identifying needs as gaps between current and desired results planning those required in priority order based on the cost to meet each need versus the cost of ignoring it, and selecting the most important needs (problems or opportunities (for reduction or elimination). This definition emphasizes that needs are gaps in result rather than gap of deficiencies in process or resources. It asks the user to assess the discrepancy between what is and what should be in terms of results, and to compare the magnitude of these gaps in results against the cost to close or ignore them. These definitions and related approach to require assessment couples productivity with effectiveness. Therefore, nearly all the approaches see the usefulness of require assessment for obtaining and allocating resources for projects.

This theory is related to this study because Onwuka (1982) emphasized that the fact that before any in-service education programme can be established, the felt need of teachers who will participate in such a programme must be ascertained. Therefore, perceived needs of teachers must be considered and also in-service-education training should be structured to permit their active involvement in order to improve their practical skills. Moreover, the furniture making teachers should concern themselves with the efforts to find out how best to structure their workshops activities so that students will be opportune and encouraged to satisfy their individual needs. Thus, the occasional and appropriate involvement of students and their needs in the planning of

curriculum and instruction and also systematic exposure to environmental process will lead to some reasonably strong interest in the students especially in woodwork practical projects.

2.3 Review of Related Empirical Studies

Umar (2018) conducted a study assessment of craft skills training needs in the North-western Nigeria. The objectives of the study included identifying general and specific craft skill training need, extent of the need, militating factors against craft skill training and effective training methods. Purposive sampling technique was used in administering questionnaires (140) to professionals (40) and some selected craftsmen (100) within small, medium and large construction companies in the North- western Nigeria. Questionnaire survey was used to collect data from craftsmen on site and professionals that are directly involved in building production. Mean score and standard deviation of each item was determined and ranked accordingly. SPSS version 16.0 was used in this analysis. The study revealed that, lack of assessing workers training needs prior to training program has a mean score of (3.308), lack of adequate tools / equipment has (3.189) and high cost of training has (3.126), and these were ranked high among the major factors militating against craft skill training. Understanding drawing has a mean score of (3.304), basic safety has (3.284) and multi skilling has (3.170), and these were among the training areas that should be given higher priority in training craftsmen under study. For effective craftsmen training methods, the result shows, traditional apprenticeship training has a mean score of (3.304), practical demonstration has (3.018) and on the job training has (2.996). It was concluded that assessment of craft skill training need is an important strategy through which construction companies identified and respond to their training areas in their respective companies. It was recommended that master craftsmen (foremen) should be encouraged and supported to train craftsmen on site.

Oyewusi and ogunlade (2016) conducted a study to develop entrepreneurial skills training modules for capacity building of carpentry and joinery craftsmen in Ogun State. Five research questions were answered while five null hypotheses formulated were tested at 0.05 level of significance. The study adopted research and development design and was conducted in Ogun State. The population for the study consisted of 30 teachers of carpentry and joinery in 8 technical colleges, 40 lecturers of business education from colleges of education and 50 craftsmen in carpentry and joinery industries. All from Ogun State. There was no sampling technique due to manageable size of the population. Internal consistency of entrepreneurial skills training modules questionnaire was determined using Cronbach Alpha reliability method and the overall reliability coefficient of 0.75 was obtained. Means and standard deviation was used to answer research questions while analysis of variance was employed for testing five null hypotheses at 0.05 level of significance. The result of hypotheses tested revealed that there was no significant difference in the mean responses of teachers of carpentry and joinery, lecturers of business education and craftsmen in registered carpentry and joinery industries. The success of any educational programme depends on the level of availability of resources provided for the programme.

Mohammed *et al.* (2019) researched on skills improvement need of woodwork teachers in Technical Colleges of Yobe state" was influenced by the great concern about the future and continuity of woodwork as a skill oriented course which equip learners with relevant life skills. Three research questions guided the study. Descriptive survey research design was adopted and the population was 36 woodwork teachers. A structured questionnaire consisting of 71 items was developed and used for data collection. Mean and standard deviation were used to answer research question one and two while z-test analysis was used to establish the skills improvement need for research question three. The findings revealed that the teachers need re-training in construction of

wooden articles. It was recommended that teachers should regularly be sent on professional courses and engages in commercial activities to update and boost their competencies in skills for teaching activities in schools workshops.

Ade (2015), Craftsmen in the construction industry play a very crucial role to the survival and growth of the industry as they are mostly engaged in the practical realization of construction projects. As a country endowed with skilled manpower, the construction industry in Nigeria can best be described as ironic. Though on the one hand, it was acclaimed to be the highest employer of the nation's workforce after agriculture, while on the other, it is faced with challenges in technical skilled craftsmen shortage which affects organization's productivity, quality of work, duration of projects and on firm's profits. Not much research has examined the shortage of skilled workforce in the perspective of small and medium construction firms (SMCFs) in Nigeria. Majority of earlier research has focused mainly on large construction firms. The purpose of this study is to carry out a detailed review of archival documents aimed at examining the shortage of skilled craftsmen in the construction industry, particularly in small and medium construction firms in Nigeria. This study adds to existing body of knowledge by exposing the reasons for shortage of skilled craftsmen in the construction industry in the perspective of small and medium construction firms in Nigeria.

2.4 Summary of the Related Literature Reviewed

As it has been same higher than of the development woodwork craftsmen within the construction industry there's little doubt that coaching is importance within the productivity improvement of any economy. coaching has been outlined as an activity that cares with creating staff additional articulate and economical within the Performance of their current duties or in coaching for a substitute style of job, to fulfill the dynamic desires of the institution. Training will be accustomed

develop ability, sleight and skills of personnel in the slightest degree levels. The categories training as induction training, on-the-job training, refresher training, talent upgrading, sensible demonstration and any education (in-service training).

The study aimed toward work the extent and therefore the stumbling blocks to teaching, and to spot the most effective training varieties/approaches with the intention to facilitate within the productivity of construction woodwork craftsmen in Abuja, Nigeria.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

This study employed a descriptive survey method because it involves the use of questionnaire to help in determining the opinion of the respondents. Udogu (2014) stated that a survey research as a descriptive study are plans, strategies and structured employed towards obtaining answers to research questions and hypothesis. He further added that it covers the outline of what the researcher intends to do up till the final analysis. In the same angle, this study seeks the opinion the assessment of the training needs of woodwork craftsmen for effective performance in construction industries in Abuja

3.2 Area of the Study

Abuja is located in latitude 9 4’ 20.1504” N and 7 29;28.6872” E. It is the largest city and the capital of Nigeria; Abuja can be found roughly in the central part of the country situated in the west central region of the African continent. Administratively, Abuja is the center of the Federal Capital Territory and is a city with the area close to 275 square miles. Abuja is one of the most important cities of the African continent, as well as the place where many international events of various kinds are held. The capital city is the location where most of the major administrative bodies of the country can be found. It is a key political and economic center of the country, an important cultural and transportation hub. It is a modern city with a mixed and very diverse community, a multicultural and quite highly educated society, and a friendly atmosphere. There is a great number of tourist attractions in Abuja, including some local religious establishments,

museums, and historic architecture, parks and gardens, etc. It is also one of the fastest growing communities, not only of the African continent but also of the whole world.

3.3 Population of the Study

The total population of the study is forty five (45). The total population comprises of fifteen woodwork craftsmen and thirty management employees from six construction companies registered with company Affairs Commission (CAC) in Nigeria Federal Capital Territory.

3.4 Sample and Sampling Technique

Due to the manageable size of the study population, the study utilized the whole population, the entire population was used for the study

3.5 Instrument for data collection

A structured questionnaire titled; Skill Required by Road Side Automobile Mechanics in the Maintenance of Anti-Lock Braking System in Abuja (FCT). This was developed by the researcher and was used for data collection. The instrument consists of two parts I and II. Part I sought information on the respondents of automobile teachers and part II sought information on the respondents of automobile workshop supervisor. Each part of the questionnaire is divided into section A and section B. Section A sought for information on personal data while section B sought for information on the research questions. A four point rating scale of measurement will be used for section B. Section B consist of research question one with twelve (12) items which sought for information on the skills required by roadside automobile technician for servicing anti-lock braking system, research question two consist of twenty four (16) items which sought for information on the skills required by roadside automobile technician for repairing anti-lock

braking system while research question three consist of twenty eight (16) items which sought for information on the safety measures required by automobile technologist when maintaining anti-lock braking system.

3.6 Validation of the Instrument

The instrument used for this research was legitimate by using three lecturers in the department of Industrial and Technology Education, Federal University of Technology, Minna, Niger State. All necessary corrections were created and final was created. The valid instrument was used for the gathering of information for the study.

3.7 Administration of the Instrument

The instrument will be administered to the respondents. The companies sampled will be visited to administer and collect the instrument. A complete forty five copies of the form will be distributed to the woodwork craftsmen and management staffs within the industry as registered with the company Affairs Commission (CAC) in FCT Nigerian capital. All the copies of the questionnaires will be administer.

3.7 Method for Data Analysis

Data collected for this study will be analyzed by computing the mean and t-test statistics. Mean will be used to answer the research questions while Independent t-test will be used to test the hypotheses at 0.05 level of significance. A four-point Likert rating scale will be used for research questions one to three. Decision on the research questions will be based on the resulting mean scores. Standard deviation will be use to decide on the closeness of the respondents to the mean of their responses. Any item with a mean of 2.5 and above will be considered required while item

with a mean below 2.5 will be considered not required. Independent t-test will be used to test the hypothesis at 0.05 level of significance.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Research Question One

What are the skills possessed by the woodwork Craftsmen in the Construction Industry in Abuja?

Table 4.1: Mean responses of the woodwork craftsmen and management staff of the construction industry on the skills possessed by the woodwork Craftsmen in the Construction Industry in Abuja. **N_1=15, N_2=30**

S/N	ITEMS	$\overline{X}_1$	$\overline{X}_2$	X_t	REMARK
1	Skills in Hand Sawing	3.47	3.63	3.55	Agreed
2	Ability to observe tools safety precaution	3.53	3.30	3.42	Agreed
3	Ability to select the right saw for a particular type of sawing.	3.07	3.30	3.18	Agreed
4	Ability to measure and mark out line	3.27	3.27	3.27	Agreed
5	Ability to use the right holding device before sawing.	3.67	3.30	3.48	Agreed
6	Holding the saw with the fore finger straight out on one side of the handle.	2.60	2.97	2.78	Agreed
7	Ability to guide the initial strokes using thumb.	3.33	3.37	3.35	Agreed
8	Ability to maintain proper sawing angle between the saw and the work piece	3.07	2.70	2.88	Agreed
9	Skills in hand planning	2.93	2.80	2.87	Agreed
10	Skills in application of adhesives and assembling of wood projects	2.93	3.13	3.03	Agreed

11	Skills in wood finishing	3.13	3.03	3.08	Agreed
12	Skills in maintenance of woodwork tools and equipment	3.07	3.27	3.17	Agreed

Keys

N_1 =numbers of woodwork craftsmen, N_2 =numbers of management staff, X_1 =mean responses of woodwork craftsmen, X_2 =mean responses of management staff, X_t=average mean responses of woodwork craftsmen and management staff

The result in Table 4.1 revealed that respondent agreed on the skills possessed by the woodwork Craftsmen in the Construction Industry in Abuja with the mean which ranges from 2.78-3.55. This implies that all the skills are needed by woodwork craftmen in the construction industry.

4.2 Research Question Two

What are the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja?

Table 4.2: Mean responses of the woodwork craftsmen and management staff of the construction industry on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja.

		N_1=15, N_2=30			
S/N	**ITEMS**	$\overline{X}_1$	$\overline{X}_2$	X_t	**REMARK**
1	Ability to select the right plane for a particular operation.	2.80	2.80	2.80	Agreed
2	Ability to use winding stick and try square to test for flatness and squareness on a piece of wood.	2.87	3.00	2.93	Agreed

3	Ability to take and transfer the correct measurement using marking gauge.	3.13	2.90	3.02	Agreed
4	Ability to plane end of wood square to faces and edges.	3.00	3.30	3.15	Agreed
5	Mastering the sequence of machine operations.	3.67	2.83	2.95	Agreed
6	Ability to set the length of cut on the cross cutting machine.	3.20	2,50	2.85	Agreed
7	Knowledge on how to protect tools and equipment from damage	2.87	2.67	2.77	Agreed
8	Knowledge about the science of construction material	2.87	2.37	2.62	Agreed
9	Ability to interpret working drawings.	3.33	2.83	3.08	Agreed
10	Ability to mark out joints to specifications.	2.93	2.93	2.93	Agreed
11	Ability to use chisel and mallet with correct force to remove waste.	2.60	2.97	2.78	Agreed
12	Ability to label a couple of joint.	3.33	3.37	3.35	Agreed
13	Ability to trial assembly of project	3.07	2.70	2.88	Agreed

N_1 =numbers of woodwork craftsmen, **N_2** =numbers of management staff, **X_1** =mean responses of woodwork craftsmen, **X_2** =mean responses of management staff, **X_t**=average mean responses of woodwork craftsmen and management staff

The result in Table 4.2 revealed that respondent agreed on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja with the mean which ranges from 2.62-3.35. This implies that all the skills are needed for effective performance of woodwork craftsmen in the construction industry in Abuja.

4.3 Research Question Three

What are the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja?

Table 4.3: Mean responses of the woodwork craftsmen and management staffof the construction industry on the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja.

N_1=15, N_2=30

S/N	ITEMS	$\overline{X}_1$	$\overline{X}_2$	X_t	REMARK
1	Practical demonstrations	3.27	3.00	3.13	Agreed
2	Induction training	3.47	3.30	3.38	Agreed
3	Vocational training and Workshop Avenue	3.13	3.50	3.32	Agreed
4	Refreshed training and skill training	3.07	3.43	3.25	Agreed
5	Apprenticeship	3.53	3.10	3.32	Agreed
6	Formal training and retraining programs	3.27	3.33	3.30	Agreed
7	Trade test certificate	3.07	3.37	3.22	Agreed
8	In service training	3.40	3.60	3.50	Agreed
9	On-the-job training	3.20	3.60	3.40	Agreed

N_1 =numbers of woodwork craftsmen, **N_2** =numbers of management staff, **X_1** =mean responses of woodwork craftsmen, **X_2** =mean responses of management staff, **X_t**=average mean responses of woodwork craftsmen and management staff.

The result in Table 4.3 revealed that respondent agreed on the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja with the mean which ranges from 3.13-3.50. This implies that there is need for skills improvement of Woodwork Craftsmen in the Construction Industry in Abuja.

4.4 Hypothesis One

There is no significant difference between the mean responses of woodwork craftsmen and the management staff in the woodwork construction industries on the skills possessed by the woodwork craftsmen in the Construction Industry in Abuja.

Table 4.4: t-test analysis of Mean scores of the woodwork craftsmen and the management staff on the skills possessed by the Woodwork Craftsmen in the Construction Industry in Abuja.

Variables	N	Mean	SD	Df	T	p-value
Woodwork craftsmen	15	3.32	0.46	43	1.37	0.175
Management staff	30	3.13	0.39			

Table 4.4 shows the comparison of t-test of the mean rating of the responses of the respondents on the skills possessed by the woodwork craftsmen in the Construction Industry in Abuja. The results revealed that the mean and standard deviation of woodwork craftsmen are 3.32 and 0.46 while the mean and standard deviation of management staff are 3.13 and 0.39 respectively. Since the p-value (0.175) is greater than 0.05, the result revealed that there was no significant difference between the mean responses of woodwork craftsmen and the management staff in the woodwork construction industries on the skills possessed by the woodwork craftsmen in the Construction Industry in Abuja. Therefore, the null hypothesis was accepted.

4.5 Hypothesis Two

There is no significant difference between the mean responses of the of woodwork craftsmen and the management staff in the woodwork construction industries on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja.

Table 4.5: t-test analysis on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja

Variables	N	Mean	SD	Df	T	p-value
Woodwork craftsmen	15	3.37	0.44	43	0.96	0.34
Management staff	30	3.23	0.41			

Table 4.5 shows the comparison of t-test of the mean rating of the responses of the respondents on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja. The results revealed that the mean and standard deviation of woodwork craftsmen are 3.37 and 0.44 while the mean and standard deviation of public owners are 3.23 and 0.41 respectively. Since the p-value (0.34) is greater than 0.05, the result revealed that there was no significant difference between the mean responses of the of woodwork craftsmen and the management staff in the woodwork construction industries on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja.. Therefore, the null hypothesis was accepted.

4.6 Hypothesis Three

There is no significant difference between the mean responses of the of woodwork craftsmen and the management staff in the woodwork construction industries on the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja

Table 4.6: t-test analysis on the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja

Variables	N	Mean	SD	Df	T	p-value
Woodwork craftsmen	15	2.70	0.27	43	0.78	0.69
Management staff	30	2.96	0.42			

Table 4.6 shows the comparison of t-test of the mean rating of the responses of the respondents on the impact of environmental factors on energy consumption in residential buildings in Minna Metropolis. The results revealed that the mean and standard deviation of Woodwork craftsmen are 2.70 and 0.27 while the mean and standard deviation of Management staff are 2.96 and 0.42 respectively. Since the p-value (0.69) is greater than 0.05, the result revealed that there was no significant difference between the mean responses of the of woodwork craftsmen and the management staff in the woodwork construction industries on the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja. Therefore, the null hypothesis was accepted.

4.7 Findings of the Study

Findings from the study are presented according to research question posed for the study.

Finding of research question 1; What are the skills possessed by the Woodwork Craftsmen in the Construction Industry in Abuja? Are;

1. Skills in Hand Sawing
2. Ability to observe tools safety precaution
3. Ability to select the right saw for a particular type of sawing.
4. Ability to measure and mark out line
5. Ability to use the right holding device before sawing.
6. Holding the saw with the fore finger straight out on one side of the handle.

Finding of research question 2; What are the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja? Among them Are;

1. Ability to select the right plane for a particular operation.
2. Ability to use winding stick and try square to test for flatness and squareness on a piece of wood.
3. Ability to take and transfer the correct measurement using marking gauge.
4. Ability to plane end of wood square to faces and edges.
5. Mastering the sequence of machine operations.
6. Ability to set the length of cut on the cross cutting machine.
7. Knowledge on how to protect tools and equipment from damage
8. Knowledge about the science of construction material

Finding of research question 3; What are the skills improvement needs of the Woodwork Craftsmen in the Construction Industry in Abuja? Among them Are;

1. On-the-job training,
2. In-service training,
3. Trade test certificate,

4. Practical demonstration.

4.8 Discussion of the Findings

The findings on research question one on the skills possessed by the Woodwork Craftsmen in the Construction Industry in Abuja revealed that most of the respondents agreed on the items. The findings corroborate with Umar (2018) conducted a study assessment of craft skills training needs in the North-western Nigeria. The objectives of the study included identifying general and specific craft skill training need, extent of the need, militating factors against craft skill training and effective training methods. For effective craftsmen training methods, the result shows, traditional apprenticeship training has a mean score of (3.304), practical demonstration has (3.018) and on the job training has (2.996). It was concluded that assessment of craft skill training need is an important strategy through which construction companies identified and respond to their training areas in their respective companies. It was recommended that master craftsmen (foremen) should be encouraged and supported to train craftsmen on site.

The findings on study question two on the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja revealed that most of the respondents agreed on the item. The findings is in support of Ade (2015), conducted a study in examining the shortage of skilled craftsmen in the construction industry, particularly in small and medium construction firms in Nigeria. The purpose of this study is to carry out at examining the shortage of skilled craftsmen in the construction industry, particularly in small and medium construction firms in Nigeria. As a country endowed with skilled manpower, the construction industry in Nigeria can best be described as ironic. The findings revealed that the teachers need re-training in construction of wooden articles. It was recommended that teachers should regularly be sent on professional

courses and engages in commercial activities to update and boost their competencies in skills for teaching activities in schools workshops.

The findings on the skills improvement needs of the woodwork craftsmen in the construction Industry in Abuja reveals that, on-the job training, alternate scan certificates, in-carrier training, are the competencies improvement wishes of the constructing craftsmen in the woodwork enterprise in Abuja. This discovering is in keeping with the view of Olatunji (2018) further identified the types of training as induction coaching, on-the-job training, refresher training, talent upgrading, practical demonstration and extra schooling (in-service training). It can be Clear that on-the-job teaching is employed to a significant extent. The gain knowledge of suggests that the induction coaching is notably favored in the entire woodwork industries. The following in ranking is the practical demonstration and followed by means of on-the job coaching and skill coaching. Valuable demonstrations with is when you consider that that that plenty of the setting up substances producers have on the moment cultivated the apply of introducing new merchandise to the industry via clever demonstration. The survival of a construction institution will depend on award and beneficial of contracts. Furthermore, contracts are at all times applied inside a lower-off date. Zhou (2015) implemented a gain knowledge of on motivating growth administration professionals and operatives. He concluded that motivation, when it can be blended with work experience and education (coaching) is a essential aspect in bettering effectivity. Within the time earlier, tons of the tradesmen (craftsmen) were mainly proficient by way of alternate Cadres, vocational instructing institutes and technical faculties. Some even took examinations on the conclude of the apprenticeship interval such on the grounds that the examinations of the city and Guild Institute of high-best Britain, trade scan certificates of the ministry of labour and productiveness, and a lot of others. It is regrettable to notice that, there don't look to be any further

crucial formal vocational coaching centres for teaching craftsmen. The long-based age in expert craftsmen and artisans in Nigeria for illustration is between forty five - 50 years. It can be, nevertheless, suggestion that the administration registered constructing industries studied will must join utmost value to fabric schedule and Scheduling, provision of ample working contraptions and equipments, original cost of wages to their staffs with the intention to make stronger their performance.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

This Chapter describes the Summary the Study, Implication of Findings, Contribution to Knowledge, Conclusion, Recommendations and Suggestions.

5.1 Summary of the Study

The main focus of this research study was to assess the training needs of woodwork craftsmen for effective performance in construction industry in Abuja, Nigeria. Chapter one focuses on the statement of problem, purpose of the study, significance, scope of the study, research question and hypothesis were all stated, tested and discussed appropriately in line with the topic.

Chapter two reviewed relevant literatures, on conceptual framework such as woodwork trade, Construction Industry, Impact of Skilled Craftsmen to the Development of Small and Medium Construction Firms and Causes of Skilled Craftsmen Shortage in Nigeria among others. Theoretical framework on theory of skill development, required assessment theory and empirical studies. Chapter three focuses on the research methodology such as research design, population for the study, sampling, instrument, data collection method and data analysis method. Chapter four discusses the results of the findings. From chapter five, Implications of the study and conclusions were also drawn from the findings and discussed. Recommendations and suggestions for further study were formulated and stated according to the findings of the study.

5.2 Implications of Findings

The findings of this study have far reaching implications the government, technical colleges, woodwork craftsmen, woodwork instructors and the public at large. The study provides useful information about the training needs of woodwork craftsmen for effective performance.

5.3 Contribution to Knowledge

Woodwork craftsmen will be better equipped with adequate training to perform more effectively in tier various jobs and assignment in the industries.

5.4 Conclusion

The study assessed the training needs of woodwork craftsmen for effective performance in construction industries in Abuja. Three objectives were formulated and three research questions were raised to guide the study. The study revealed the skills possessed by the Woodwork Craftsmen in the Construction Industry and the needed improvement. The findings gotten from this study on the assessment of the training needs of woodwork craftsmen for effective performance in construction industry in Abuja, based on the data analyzed on the finding, it was concluded that there is training need for effective performance of woodwork construction craftsmen especially in developing countries where most of the construction works is still carried out on manual basis. The findings from the study has pointed out that productivity in the construction industry is low and in some cases declining. Poor productivity of construction craftsmen is one of the causes of cost and time overruns on construction projects.

5.5 Recommendations

Based on the findings of the study, the following recommendation was made;

1. It is recommended that employees should be adequately motivated to perform in high spirit
2. Also, adequate plans should be made for retaining and retraining of staffs
3. Sufficient funds should be made available for the construction industry
4. Change in government should not affect the continuity of viable policies;
5. Material resources utilization should be properly monitored;
6. Facilities and equipment should be well maintained, supervisors should be involved in selecting (craftsmen) for their performance

7. Safety practices should be ensured and adhere to

5.6 Suggestion for Further Studies

The next strategies are made for further study headquartered on findings of this be trained;

1. Analysis of the impact on of formal and non formal coaching on the efficiency of woodwork craftsmen in Nigeria.
2. Factors responsible for the downward trend in woodwork construction projects in Niger State.

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APPENDIX

QUESTIONNAIRE ON THE ASSESSMENT OF TRAINING NEEDS OF WOODWORK CRAFTSMEN FOR EFFECTIVE PERFORMANCE IN CONSTRUCTION INDUSTRIES IN ABUJA

Dear respondent,

This Questionnaire is designed to obtain information on **Assessment of the Training Needs of Woodwork Craftsmen for Effective Performance in Construction Industries in Abuja**. Please, kindly assist by filling the necessary information where appropriate. Any information obtained will be held in strict confidence and will be used solely for the purpose of this academic study. Please tick or write in the appropriate location.

SECTION A

Woodwork craftmen [ ]

Management Staff [ ]

SA= Strongly Agree (4 points)

A= Agree (3 points)

DA= Disagree (2 points)

SD= Strongly Disagree (1 point)

SECTION B

Research Question One

What are the skills possessed by the Woodwork Craftsmen in the Construction Industry in Abuja?

S/N	ITEMS	SA	A	D	SD
1	Skills in Hand Sawing				
2	Ability to observe tools safety precaution				
3	Ability to select the right saw for a particular type of sawing.				
4	Ability to measure and mark out line				
5	Ability to use the right holding device before sawing.				
6	Holding the saw with the fore finger straight out on one side of the handle.				
7	Ability to guide the initial strokes using thumb.				
8	Ability to maintain proper sawing angle between the saw and the work piece				
9	Skills in hand planning				
10	Skills in application of adhesives and assembling of wood projects				
11	Skills in wood finishing				
12	Skills in maintenance of woodwork tools and equipment				

Research Question Two

What are the skills needed for effective performance of woodwork craftsmen in the construction industry in Abuja?

S/N	ITEMS	SA	A	D	SD
1	Ability to select the right plane for a particular operation.				
2	Ability to use winding stick and try square to test for flatness and squareness on a piece of wood.				
3	Ability to take and transfer the correct measurement using marking gauge.				
4	Ability to plane end of wood square to faces and edges.				
5	Mastering the sequence of machine operations.				

6	Ability to set the length of cut on the cross cutting machine.				
7	Knowledge on how to protect tools and equipment from damage				
8	Knowledge about the science of construction material				
9	Ability to interpret working drawings.				
10	Ability to mark out joints to specifications.				
11	Ability to use chisel and mallet with correct force to remove waste.				
12	Ability to label a couple of joint.				
13	Ability to trial assembly of project				

Research Question 3

What are the skills improvement needs of the woodwork craftsmen in the construction Industry in Abuja?

S/N	ITEMS	SA	A	D	SD
1	Practical demonstrations				
2	Induction training				
3	Vocational training and Workshop Avenue				
4	Refreshed training and skill training				
5	Apprenticeship				
6	Formal training and retraining programs				
7	Trade test certificate				
8	In service training				
9	On-the-job training				