

**RELATIONSHIP BETWEEN SELF-CONCEPT AND ACADEMIC ACHIEVEMENT  
OF WOODWORK TECHNOLOGY STUDENTS IN NIGER STATE  
TECHNICAL COLLEGES,  
NIGERIA**

**BY**

**ADAMU, AHMADU ABDULLAHI  
M.TECH/SSSE/2004/1169**

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

**SEPTEMBER, 2011.**

**RELATIONSHIP BETWEEN SELF-CONCEPT AND ACADEMIC  
ACHIEVEMENT OF WOODWORK TECHNOLOGY STUDENTS  
IN NIGER STATE TECHNICAL COLLEGES, NIGERIA**

**BY**

**ADAMU, AHMADU ABDULLAHI  
M.TECH/SSSE/2004/1169**

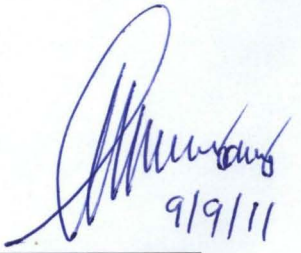
**A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL,  
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA,  
NIGERIA IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF  
MASTER OF TECHNOLOGY (M.TECH)  
DEGREE IN INDUSTRIAL AND  
TECHNOLOGY EDUCATION  
(WOODWORK OPTION).**

**SEPTEMBER, 2011.**

## DECLARATION

I ADAMU, Ahmadu Abdullahi Reg.No. M.Tech/SSSE/2004/1169 a post Graduate Student of the Department of Industrial and Technology Education declare that the work embodied in this thesis is original and has not been submitted in part or full for any other diploma or degree of this or any other University.

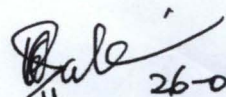
ADAMU, Ahmadu Abdullahi  
M.Tech/SSSE/2004/1169

  
9/9/11  
Signature & Date

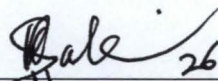
## CERTIFICATION

This is to certify that this thesis titled "Relationship Between Self-Concept and Academic Achievement of Woodwork Technology Students in Niger State Technical Colleges, Nigeria" by ADAMU, Ahmadu Abdullahi (M.Tech/SSSE/2004/1169) meets the regulations governing the award of Master of Technology (M.Tech) Degree in Industrial and Technology Education (Woodwork Technology option) of the Federal University of Technology, Minna, Nigeria and is approved for its contribution to scientific knowledge and literary presentation.

Prof. Kazeem, A Salami  
Supervisor

  
26-09-11  
Signature & Date

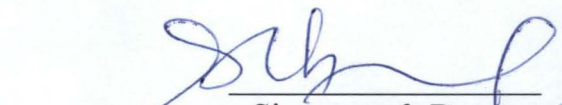
Prof. Kazeem, A. Salami  
Head of Department

  
26-09-11  
Signature & Date

Prof. H.A. Suberu  
Dean School of Science and Science Education

  
14/10/11  
Signature & Date

Prof. (Mrs.) S.N. Zubairu.  
Dean, Postgraduate School

  
7/3/2012  
Signature & Date

## ACKNOWLEDGEMENTS

My sincere attribute goes to Almighty Allah, Subhanahu Wata–Allah (SW) Who in His infinite mercy gave me the health, knowledge, inspiration, ability and wisdom in seeing to the completion of this project. My special appreciation goes to my former Supervisor Late Dr. M. H. Tukura, Present Supervisor Prof. Kazeem, A. Salami, my Readers Dr. B.N. Atsumbe, Dr. B. Bukhar and Mallam Bala M. Mohammed who despite their tight schedules made objective and constructive observations and also took the pain in going through and guiding me in drafting this thesis. I found them very helpful, accommodating, interesting and accessible. Their suggestions contributed immensely to the writing of this project. My appreciation also goes to Mallam M. Kagara and Mallam Adamu M. Jebba who most of the times schedule our meeting to guide and make their contribution in this write up. Dr. Chado I. Mohammed, Mallam Abubakar H. Ndana, Alh. Uthman Mohammed in School of Technical Education who all took their time in seeing to the success of this project. I also salute Mrs. Alice Kolo Boku of the Consultancy Unit, College of Education, Minna who took her time to type this work. May Allah bless you and guide you all through the right path. Finally I wish to acknowledge my wife Mallama Aishetu A. Adamu, and my children who were patient and enduring during the period of this work. May Allah Almighty reward, bless and guide you through the right path.

## ABSTRACT

The purpose of the study was to find the relationship between self-concept and academic achievement of wood work Technology Students in Niger State Technical Colleges. A correlational research design was adopted for the study. Relevant literature related to the study was used. A total of 600 woodwork technology students (516 males and 84 females) were used for the study from the six Niger State Technical Colleges. Four research questions and three hypotheses were formulated to guide the study. A structured questionnaire was used to obtain data on self-concept of the students while the students' achievement score of TCII were obtained from Niger State Science and Technical Schools' Board, Examination section. A four point Likert type rating scale was used for the study. The instrument used for the study was subjected to both face and content validation by three senior lecturers from the Department of Industrial and Technology Education, Federal University of Technology, Minna and the reliability coefficient of 0.86 was obtained. The data generated were analyzed using mean and Pearson product moment correlation coefficient ( $r$ ) to provide answers to research questions one, two, three and four respectively. The t-test was used to test the hypotheses that guided the study. The study found that students of wood work technology considered themselves mostly as realistic and intellectual self-concepts. Also, the study revealed that there was relationship between self-concept of the students and their academic achievement. Based on these findings, four recommendations were made which among others include, the need for Technical Colleges in Niger State to ensure that students identify and understand their self-concept first before their choice of trade.

## TABLE OF CONTENTS

	Pages
Cover Page	i
Title Page	ii
Declaration	iii
Certification	iv
Acknowledgements	v
Abstract	vi
Table of Contents	vii
List of Tables	x
<b>CHAPTER ONE</b>	
<b>1.0 INTRODUCTION</b>	
1.1 Background of the Study	1
1.2 Statement of the Problem	5
1.4 Purpose of the Study	6
1.5 Significance of the Study	6
1.6 Scope of the Study	8
1.7 Research Questions	8
1.8 Hypotheses	9
<b>CHAPTER TWO</b>	
<b>2.0 LITERATURE REVIEW</b>	
2.1 Theoretical Framework of the Study	10
2.2 Self-Concept Theory	12
2.3 The Personality Theory	16
2.4 Self-Concept and Academic Achievement	19
2.5 Factors responsible for Students Academic Performance	22
2.6 Technical Colleges in Nigeria	25
2.7 Review of Related Empirical Studies	29

	<b>Pages</b>
2.8 Summary of Related Literature Reviewed	31
 <b>CHAPTER THREE</b>	
<b>3.0 MATERIALS AND METHODS</b>	
3.1 Research Design	32
3.2 Area of the Study	32
3.3 Population of the Study	33
3.4 Instrument for Data Collection	34
3.5 Validation of the Instrument	34
3.6 Reliability of the Instrument	35
3.7 Method of data Collection	35
3.8 Method of Data Analysis	35
 <b>CHAPTER FOUR</b>	
<b>4.0 RESULT</b>	
4.1 Research Question 1	37
4.2 Research Question 2	38
4.3 Research Question 3	39
4.4 Research Question 4	40
4.5 Hypothesis 1	42
4.6 Hypothesis 2	43
4.7 Hypothesis 3	44
4.8 Findings	45
 <b>CHAPTER FIVE</b>	
<b>5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS</b>	
5.1 Discussion of the findings	46
5.2 Summary of the study	49



	<b>Pages</b>
5.3 Conclusion	50
5.4 Implications of the Study	50
5.5 Recommendations	51
5.6 Suggestions for Further Research	51
<b>REFERENCES</b>	52
<b>APPENDICES</b>	56
A: Rating scale on self-concept	56
B: Statistical tools used	60
C: Letter of introduction	62
D: Table of t-values	63
E: Table of critical values of (r)	64

## LIST OF TABLE

<b>Table</b>	<b>Page</b>
3.2 Distribution of the Population by Gender from the Six Technical Colleges in Niger State	33
4.1 Self-concept categories of woodwork technology students in Technical colleges	37
4.2 Relationship between Self-concept and Students' Achievement in Related Subjects	38
4.3 Relationship between Self-concept of male Woodwork Technology Students and their trade subjects achievement	39
4.4 Relationship between Self-concept and Academic Achievement of female Woodwork Technology Students	40
4.5 t-test Relationship between Self-concept of Woodwork Technology Students and their Achievement in Trade Related Subjects	42
4.6 t-test Relationship between Self-concept of Male Woodwork Technology Students and their Achievement in Trade Related Subjects	43
4.7 t-test Relationship between Self-concept of female Woodwork Technology Students and their Achievement in Trade Related Subjects	44

## CHAPTER ONE

### INTRODUCTION

#### 1.0

#### 1.1 Background of the Study

Technical Colleges are institutions where craftsmen are trained up to the craft certificate at National Technical Certificate (NTC) / National Business Certificate (NBC) and Advance National Technical Certificate (ANTC) / Advance National Business Certificate (ANBC) (Okorie, 2001). Students who have completed the first three years of Secondary School Education and the Successful products of Vocational Training Centres are eligible for admission to Technical Colleges. The objectives of Technical Colleges are:

- i. Provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technician levels;
- ii. Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development;
- iii. Give training and impart the necessary skills to individual who shall be self reliant economically, (Federal Republic of Nigeria, (FRN) 2004).

The Programmes offered in Technical Colleges include Woodwork Technology, Metal Work, Building Technology, Electrical Electronics, Automobile Technology, Tailoring, Shoemaking, Catering, Stenography, and Refrigeration. Niger State has six Technical Colleges, namely:- Government Technical College, Eyagi-Bida; Government Technical College, Kontagora; Government Technical College, Minna; Suleiman Barau Technical College, Suleja; Mamman Kontagora Technical College and Technical College, New-Bussa. The Curriculum of Technical College train workforce at the

Craftmen's level and the Curriculum consists of trade subjects such like Technical Drawing, Trade Calculation, Furniture design and construction, Industrial Training (IT) and general Education subjects. Students in Technical Certificate one (TCII) in Technical Colleges receive training in all Trade Courses, at the end of which tests are administered to determine their achievement for the purpose of placement into trade areas. Braimoh (2002) highlighted that, in addition, students' self-concepts (ability, interest, physique) should also be considered in the placement.

According to Ezeji (2001) achievement is the expression and exhibition of students' ability, aptitude, interest and attitude. He opined that different Examinations are administered in order to ascertain the level of students' achievement. For example, during each session, tests, assignments and practical work for testing skills are administered to students and as Continuous Assessment, preparatory to promotion examination. However, in addition to achieving all these, the individual Technical College Student is required to have a positive self-concept. This self-concept is usually determined through students' performance in an examination, test, and practical task. Okoro (2006) defined self-concept as, a mental construct of individual and identifiable public entities that comprise various disciplines. He also defined self-concept to mean an idea or understanding of what a thing is, ordered information about the properties of one or more things or class of things. Braimoh (2002) added that, a Student with self-knowledge and identity different from others will integrate self-concept and vocational role to perform better than those who are dependent upon others.

Jiya (2003) defined self-concept as attitudes and feelings which a person has regarding himself and his environment where his values are organized. He added that,

when a person becomes acquainted with himself, his views form a system of interrelated ideas about what he can do and how he can go about doing them and how others regards him. The person's ideas are loaded with emotions and the emotions are reactions that arise in coping with difficulties or challenges. Kayode (2002) explained that, if a child consider himself to be inadequate, unwanted or rejected by the teacher or parents, he/she may likely develop a self-concept characterized by feeling inferiority complex. This may have an educational implication for the child. For example, a student who chooses wood work without considering his self-concept is likely to end up performing very poorly. This may result from lack of understanding of one self, wrong placement of student as a result of no counseling, poor counseling or lack of career counseling etc. Ceci, (1991) suggested self-concept orientation could be one of the major factor that can influence children academic achievement beside their intelligence quotient (IQ). From the above concepts, a student who chooses wood work to specialize in it should have good knowledge, beliefs, attitudes, towards the trade, self-efficiency and goal orientation. This should be operationalized from their beliefs, interest and ideas, when they have a self-knowledge of their abilities on the choice of wood work trade. Students appraisal and estimated competences for a task that gives students relevance, attractions as well as willingness to put effort in studying a course like wood work should be emphasized. This trade includes the use of physical skills for sawing, chiseling, sand papering, and planning. Therefore, considering self-concept in a choice of wood work trade by students in Niger State Technical Colleges is very important. That means the student should have a knowledge of one self to withstand stress and strain in wood work course.

Shavelson, Hubner, and Stantomn, (2003) classified self-concept into two; general self-concept and physical self-concept. While general self-concept was broken down into academic, social, and emotional. These in turn broke down into sub-areas such as, academic self-concept where several academic abilities in subjects like English, Mathematics, physics, chemistry, wood work, metal work, and practical tasks appear. Physical self-concept, on the other hand deals with physique to saw wood straight and square, curve and irregular shapes, plain wood smooth, flat and square, chisel out joints straight and square, sand wood surface straight along the grain and smooth. Therefore, students' concepts of various subjects are significant to their abilities, interest, knowledge and physique. This will enable the individual student make a wise choice of course in relation to his abilities, knowledge, physique, and interest. This will consequently make him perform well as he/she has know his/her area of weakness and strengths. Bakare (1975) discovered students in senior secondary school three (SSS3) studying science subjects with high self-concept which enable them achieve high performance. He therefore, highlighted that it is important to students to have high self-concept in their choice of trade. He gave example of some Nigerian school children he found, whose measure of self-concept differentiated between two identified groups of students, successful and failing students.

Self-concept is discussed as a sequence with two extremes of low and high. Students with low self-concept are similar to Bakare's (1975) label of failing while students with high self-concept are similar to Bakare's successful students. In essence therefore, the category developed for the study was high self- concept since it entails high students' performance. Similarly, Braimoh (2002) added that, a student with self-

knowledge and identity different from others, will integrate self-concept and vocational role to perform better than those who are dependent upon others. Also MC.Michael (1979) found boys who entered the school with low self-concept and self-esteem were amongst the poorest readers at the end of the first year. She found that the children who entered school scoring low on cognitive measures were the same children who saw themselves as less competent and learned to read with great difficulty. Other children whose cognitive measures were high, read with less difficulty. In this study therefore, self-concept and academic achievement of wood work technology students were examined.

## **1.2 Statement of the Problem**

Advancement in production and services in the world economy results in changing technology which requires new combination or even new types of facilities, equipment and a befitting manpower that will fit this new role of technology. This is a major challenge to stakeholders of Technical and Vocational Education particularly the students who are the intended product that will eventually be part of the workforce required. Most of the times, the teacher is blamed for the student's poor performance. Even when the student is blamed, explanation is offered only in terms of the students' cognitive or intellectual ability. Little or no consideration is given to the fact that the child's self-concept in his/her chosen trade plays an important role in the child's achievement. Several authors have observed that students' performance in school subjects is related to their self-concept, that is, their personalities such as interest, physique, ability e.t.c, (Everett, 1991; Idoranyin & Monday 2004). Therefore, the problem which arouse for investigation is whether traits such as self-concept affect

academic achievements of woodwork technology students in Niger state technical colleges?

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

The purpose of this study was to determine the relationship between self-concept and academic achievement of wood work technology students in Niger State Technical Colleges. Specifically the study determined the:

1. Self-concept categories of Woodwork Technology students in Technical Colleges in Niger State.
2. Relationship between self-concept of Woodwork Technology students and their achievement in the trade related subjects in Niger State Technical Colleges.
3. Relationship between self-concept of male wood work technology students and their achievement in the trade related subjects in Niger State Technical Colleges.
4. The relationship between self-concept of female wood work technology students and their achievement in the trade related subjects in Niger State Technical Colleges.

### **1.4 Significance of the Study**

The findings of this study is beneficial to educational planners, students, technical teachers, society, employers of labour, administrators and government policy makers. The study has provided needed information based on student aptitude, attitudes, interest, ability, and physique. This will be useful to the teachers in identifying student self-



concept rating and attitude to develop favourable self-concept for adjustment both in college and at places of work.

The research has provided information on students' ability, aptitude, interest, and physique for Counselors and Technical Teachers to help in guiding them for placement. It will also enable students in selection of their course to help them perform well in National Business and Technical Examinations Board (NABTEB) examinations in Technical Colleges. Counselors have needed data on self-concept and academic achievement to carry out a diagnostic counseling needed in replacing the seminar type guidance counseling that has proved ineffective. The research has suggested rules to be adopted to take care of such students who did not realize their self-concept such as in Artistic. That any student who has interest in woodwork should pass aptitude, attitude, ability, and physique tests. This will help both the students, the teacher and society in imparting the knowledge and the students easy understanding which will consequently produce qualitative, skillful and hard working graduate in the society for national development.

It has also provided knowledge about students interest, aptitude, ability, attitude, and physique which shall be used to develop teaching methods that will reduce to the barest minimum, poor performance of Woodwork Technology students. Equally, the findings of the study will help the wood work students identify their true self-concept thus enabling them to identify their weaknesses and overcome them. The study will benefit the society and the employers of labour by applying the knowledge in theory and practical skills acquired. The parents on the other hand have been alerted on the educational aspiration of the children based on students self-concept. Also it has helped

generated further research into the educational aspiration of Woodwork Technology students in other part of the country. This study is also important since its results will go along way in producing qualitative Woodwork Technology students for the nations educational system for the purpose of national development. Hence the students understood their capability and are able to perform well in their academic course relative to their self-concept.

### **1.5 Scope of the Study**

This study investigated the relationship between students' personality (self-concept) and their related subject achievement in Woodwork Technology. The study was carried out only on students that were in their second year of study in Niger State Technical Colleges. It covered all the subjects included in the Woodwork curriculum at the Technical College level. The study did not investigate subjects that are not related to wood work, and did not study other factors like, poverty, poor environment, inadequate equipment, facilities, and infrastructures that may influence the academic achievement of Woodwork students.

### **1.6 Research Questions**

The study answered the following research questions:

1. What are the self-concept categories of Woodwork Technology students in Technical Colleges?
2. What is the relationship between self-concept of Woodwork Technology Students and their achievement in the trade related subjects?

3. What is the relationship between self-concept of male wood work technology students and their achievement in the trade related subjects?
4. What is the relationship between self-concept of female wood work technology students and their achievement in the trade related subjects?

### 1.7 Hypotheses

The following hypotheses were tested at .05 level of significance:

**Ho1:** There is no significant relationship between self-concept of Woodwork Technology students and their achievement in the trade related subjects.

**Ho2:** There is no significant relationship between self-concept of male Woodwork Technology students and their achievement in the trade related subjects.

**Ho3:** There is no significant relationship between self-concept of female Woodwork Technology students and their achievement in the trade related subjects.

## CHAPTER TWO

### 2.0

### LITERATURE REVIEW

The chapter is organised under the following headings:-

- 2.1 Theoretical Framework of the Study
- 2.2 Self-concept Theory
- 2.3 The Personality Theory
- 2.4 Academic Performance
- 2.5 Technical Colleges in Nigeria
- 2.6 Factors Affecting Student Performance
- 2.7 Review of Related Empirical Studies
- 2.8 Summary of Review of Related Literature

#### 2.1 Theoretical Framework of the Study

A thorough examination of available empirical studies carried out and views expressed by some researchers as seen in this chapter indicate some findings and positions. For example, on interest, motivation, readiness, emotional dispositions, competency, intelligence and evaluation are factors that can influence self-concept negatively or positively.

Findings and position by Purky (1988) who stated self-concept's attribute is dynamic and the dynamic self-concept always guards itself against loss of self-esteem. Also the dynamic feature of the theories of self-concept is the striving for self-actualization (Ezeji, 2001). This means, an individual with high self-concept may sustain areas of his strength and overcome his weaknesses, which could make him an improved person. Any student who intends to study Woodwork as a course has to consider his

academic self-concept. This has to do with one's interest, ability, and aptitude in subject areas that relate to Woodwork to enable the learner perform well in such areas. Also he has to consider his physical self-concept which relate to practical skill acquisitions, such as the physique to plain wood smooth, flat and square; saw or rip wood straight and square; chisel straight and square; assemble article in a square form and neat; sand paper wood straight and smooth using the appropriate grade in each case.

Any student who don't have such qualities and chooses woodwork as his area of study, is very likely to perform both poorly in his academic self-concept and physical self-concept. However, there are exceptions where a student is able to perform in academic self-concept but not able in physical self-concept. Such student should be advised to make an alternative choice or be placed in Secondary school where physical self-concept is not much applied. This is in relation to theories of Ahiakwo (2002) who posited that self-concept include identity and one's estimation of others' perception about self.

Cooley's (2005) Looking Glass Theory, which states that we look at the reaction of others to find what we are like. This forms the basis for the study of self-concept as a factor on students academic performance in trade and related subjects. While inconsistencies in the findings and positions, for example on method and techniques of teaching as a factor affecting students academic performance. Findings by James (1997); Egwuelu (1998) and Sambo (2000), indicated great inconsistencies in the effect of method and techniques of teaching on students academic performance. More so, subjects worked on are mostly non-technical courses. That is, they have little or no bearing on the academic performance of Technical College students in Niger State. Most importantly is

the global changes manifested in rapid computerization of systems, increased need for the use of internet, and an apparent evolutionary nature of the entire planet. It is also interesting to note that factors that enhance performance in other subject areas may not influence or affect performance in technical education course or vice-versa. It is possible to have a poor performance in some aspects of Mathematics, English and Social Studies and to be good in reading with other people and to be outstanding in some manipulative skills all without being rejected as a total failure (Jack, 1986).

More so, the influence of such factors on technical education courses may vary in degrees different from how they affect other course or subject areas. It is in view of these reasons despite some existing studies on the related problem; the researcher therefore, went on to investigate the relationship between self-concept and academic performance in Technical Colleges in Niger State. The researcher felt it more convenient bearing the factors affecting students academic performance into three main categories:

1. Those that are fundamental or home
2. Those that may be institutional and
3. Those that may be inbuilt in the students themselves without knowing their devastated effects on their performance. This includes interest, ability, attitude and skills, which this research is concerned with.

## **2.2 Self-Concept Theory**

The general theory based on interactionist psychologist such as Kinch (1999) and summed up by Cooley (2005) that the individual's conception of himself emerges from social interaction and in turn, guides or influences the behaviours of that individual.

The formalized theory of self concept is based on the following basic postulations:

1. The individual's self-concept is based on his perception of the way others are responding to him.
2. The individual's self-concept functions to direct his behaviour.
3. That the individual's perception of the responses of others reflects the actual responses towards him.

However, these postulation are not expected to hold under all conditions.

Mukherjee (1978) reported that individuals usually put on a mask in their behaviour to others in order to be recognized based on their behaviour instead of what they really are. That means, when some aspects of the self are at variance with the expectations of others, the individual is likely to maximize behaviour that are in compromise and devalue behaviour that varies. Jiya, (2003), opined that prior to 1976, self-concept was seen and treated as one dimensional. Shavelson, Hubner, and Stantomn, (2003) made way for researchers who began to single out several dimensions, from a general self-concept to academic, social, emotional and physical self-concept

Jiya (2003) explained that the individuals develop their self-concept by a process of internalization of the attitudes of others. That is, internalization involves a process of evaluation of the reaction of others, comparison of his behaviour to the generalized others, and finally the integration of the two into his self-concept. Ella (1990) reported that self-concept is clearly related to the nature of man, and the basis of man's total personality. This means that man in his, environment reacts and responds according to his nature but the manner in which man reacts and responds is influenced by the way he

perceives himself and is perceived by others. She further explained that a positive perception of himself and his conception of his environment make him successful and on the contrary, a negative perception or conception may inhibit him and make achievement minimal. Also Ibiabou, (1990) pointed out, there is no one self-concept but many. This postulates means that in every new role or relationship into which any individual enters, a new self-concept is produced.

Ezeilo (1984) pointed out self-concept as having multi-dimensional construct which refers to the way an individual perceives, feels, thinks about and evaluates himself. In the other hand, Hurlock (1978) maintained that the real self-concept is the individual's perception of who and what they are, that is, the mirror image determined largely by roles, relationship with others, and what they believe the reactions of others to them are. Furthermore, self-concept has physical as well as psychological aspects. The physical construct include the individuals concepts of their appearances, their appropriateness, the importance of their bodies in relation to their behaviour and the prestige their bodies earn them in the mind of others. While psychological aspects are composed of concepts individuals have of their abilities and disabilities, their worth and relationships with others. Lingdreen (1973) maintained that the self is a product of our interaction with others and that we can perceive ourselves only as a reflection in the mind of another. Gottfredson (1981) noted that self-concept is composed of different elements ranging from appearance to major life roles, with the major vocational elements as gender, social class, background, intelligence, and vocational interests, competencies and values incorporated into ones self-concept at different stages of cognitive development.



Rogers (1961) in his self-centred theory, defined self-concept as a pattern of perceptions admissible to one's awareness that include one's values, goals, feelings, knowledge and motivation. Ezeji, (2001) posited that an individual derives some measure of satisfaction from his work, which is in proportion to the degree to which he is capable of implementing his self-concept. Purkey (1988) highlighted that many of the successes and failures people experience in life are closely related to the ways that they have learned to view themselves and their relationships with others. He identified three attributes of self-concept as:

1. **It is learned:** That no one is born with it, it gradually emerges; it is shaped and re-shaped through our interactions with professionals in related trades.
2. **It is organized:** The perceptions regarding an individual's personal existence are generally stable and organized and lend itself to the personality. If self-concept change readily, the individual would lack a consistent and dependable personality.
3. **It is dynamic:** Self-concept development is a continuous process. New ideas replaces old ones. Individuals are guided in their behaviour by their self-concepts. Self-concept always guards itself against loss of self-esteem or self-worth.

From the foregoing one can conclude that, self-concept is the embodiment of all the learned, organized and dynamic qualities which the individual attributes to himself and which forms the basis of his total personality. The dynamic feature of the theories of self-concept is the striving for self-actualization (Ezeji, 2001). This means an individual who have identified his self-concept may sustain areas of his strength and overcome his weaknesses, which could make him an improved person in the area of his weaknesses.

This forms the basis for the study of self-concept as a factor on trade preferences and choice, as may be related to student academic performance.

### **2.3 The Personality Theory**

Mohammed (2006) describing general postulates of personality theory stated that, every individual inherits a tendency to expand his energy in some particular way. This tendency towards a manner of expanding psychic energy combined with various childhood experiences mould the general style an individual develops to satisfy his needs throughout his entire life. This theory explains how an individual has psychological, social and economic needs, which he must satisfy through occupational choice and productive work. The advocates of personality theory included Holland (1966) and Roe (1957). Holland's theory was however based on the assumption that vocational decision is a product of heredity and environment. Similarly, Ezeji (2001) found vocational choice significantly related to personal orientation of a person. Their theory was based on the following propositions:

1. Most persons can be categorized as one of six types-realistic, intellectual, social, conventional, enterprising and artistic.
2. There are six types of work environments; realistic, intellectual, social, conventional, enterprising and artistic.
3. People search for environments and vocation that will permit them to acquire skills and abilities. Also, to express their attitudes and values to take on agreeable roles and problems, and to avoid disagreeable ones.
4. A person's behaviour can be explained by the interaction of his personality pattern and his environment (Ezeji, 2001, 22-25)

Holland (1966) proposed six personality types and the work that matches them.

They are as follows:

1. **Realistic:-** This personality type is masculine. He has good motor coordination and skill, physically strong, unsociable and aggressive, lacks verbal interpersonal skills this type of person prefers concrete to abstract problems; is aggressive and masculine with conventional political and economic goals, he rarely performs creatively in the arts and sciences. Such person will prefer subject like trade practical.
2. **Intellectual:-** This include persons who are task oriented, introspective and social, curious in the need to understand the physical world, enjoys ambiguous tasks; prefers to work independently, have unconventional values and attitudes. Setting research laboratory, diagnostic laboratory cases, conferences or work group of scientists; this type of person would prefer subjects like mathematics.
3. **Social:-** This type is a sociable, responsible, feminine, humanistic and religious person. He has verbal and interpersonal skills, avoids intellectual problem solving. This type of person would prefer subjects like economics.
4. **Conventional:-** These group of people prefer work like structures, verbal and numerical activities that are conformists, and prefer subordinate roles; these type of people are more effective at well-structured tasks; avoid ambiguous situations and problems involving, interpersonal relationship and physical skills; they are identified with power, values material possessions and status. Such person may prefer subject like design and construction.

5. **Enterprising:-** This type has verbal skills for selling, dominating and leading. He sees himself as strong, masculine, leader, avoids well-defined language or work situations which requires long periods of intellectual efforts. This is unlike the conventional type who prefers ambiguous social tasks and has great concern for power. Such types of individuals prefer subjects like building drawing.
6. **Artistic:-** These group of persons avoids highly structured problems, and that which requires gross physical skills. This is similar to the intellectual type but differs to having a greater need for individual expression. They have less ego strength, appear feminine and suffer frequent emotional disturbances, prefer dealing with problems through self-expression in artistic media. They prefer subject like trade drawing.

Theory of career choice stated that, genetic factors and need hierarchies combine to influence the career choice and life pattern of an individual. That means, in order to understand the role of the occupation in the life of a person, it is more important first to have some understanding of the individual's personality and his needs (Jiya (2003).

Furthermore, Ezeji (2001) viewed occupational choice as a process of self-categorization. That the individual is an integrated organized whole who can be classified based on his goals or needs, and that occupation is primary source of need satisfaction. Ezeji (2001) formulated some hypotheses on relationship of early childhood experience to vocational choice as follow:-

1. The hereditary basis for intelligence, special abilities, interests, attitudes and other personality variables seem to be non-specific. This means they are subjects to change due to influence of environment.

Braimoh (2002) observed that, for some time now, there has been a great increase in the awareness of gender disparity in academic performance and achievement. This has led to disparities in access to the study and employment of females in science, technology and mathematics related areas. In view of the growing need for more participation in sciences, technology and mathematics, generally, the number of females that are in the area is not encouraging. The result of this situation calls for more studies on the variable influencing the academic performance and trade choice of females.

Salami (1999) in a study of the attitudes of secondary school students of introductory technology in Niger State revealed that, Nigerian secondary school pupils develop positive attitudes towards the study of introductory technology in the schools that the courses are available, taught and have adequate facilities. They appreciate the value of technology and ready to make a career in it. That students attitudes towards technology and technical education is directly related to their achievement and academic performances in schools. Schools that do not offer technical education courses at the senior secondary school level and do not have facilities do not create conducive atmosphere for technical education. That cannot enable the students arouse the interest of study and perform well in technology related courses. In view of the concerted efforts by the government of Nigeria at various levels to eradicate poverty and unemployment, various policies have been evolved to encourage as many citizens as possible to study science and technology related courses. In as much as Nigeria needs these form of education which ensure self-reliance and self-employment, all efforts must therefore be geared toward improving the condition of teaching and learning of technology related courses. Many persons enrolled into technology and technical education courses training

may lack the psychological and physical disposition required for success in such fields. Nwankor (1998) observed that when requisite aptitudes, interests and abilities for a given courses are lacking, student's performance cannot be good.

## **2.6 Technical Colleges in Nigeria**

Nigerian education system inherited from the colonial master (Britain) neglected technical-vocational education. Education then was mainly meant to produce, clerks and interpreters for administrative and evangelical work of the colonial government and missionaries, (Fafunwa, 1980). The global economic depression in early nineteenth century forced the colonial government in 1908 survey schools for Nigerians in order to limit the number of expatriate technicians. As at 1935-1944, these schools had only twenty one students total enrolment.

However, there were departmental training course in railway, marine, post and telegraph, agriculture and forestry departments. These establishments were meant to provide technical skills needed in these various sections, Fafunwa, (1980). Not until 1946 that the government made a conscious planning of a system of technical education in her ten years plan for development and welfare.

Nevertheless, there was still lack of skilled Nigerians to take up the available skilled jobs in the labour market which resulted; from the developmental projects going on in the country that created job opportunities, there was rising unemployment rate among the school leavers. This problem, gave the government some concern, hence her review of educational system in 1977 to meet up with the prevailing situation. This education policy was then, revised in 1981 by introducing and emphasizing technical/vocational education in various stages of education (FRN, 1981).

In 2004, the policy was subsequently revised and vocational education was defined as that form of education which is obtained at the technical colleges meant to prepare individuals to acquire practical skills and scientific knowledge and attitude required as craftsmen and technicians at sub-professional level (FRN, 2004). This is to some extent means technical education can be offered at various levels of education in Nigeria while vocational education can only be offered at post primary school level.

However, Okorie, (2001) stated that history has revealed that wherever democracy has been on the decline, it means that the individuals compromise it ceased gaining participation in the benefits of the society. He further maintained that for a country to develop technologically some needs has to be put into consideration:-

1. People go to school in Nigeria with the belief that education will enable them to participate effectively in the society. Nevertheless, to realize full participation in Nigeria, this requires technical education at all levels of our educational system. This prepares the students at different skills, abilities and give an equal opportunity to all children to enable them perform well. Technical education courses are, therefore, most needed to attract students who are likely to leave the school because they are unable to obtain suitable preparation for useful employment. For such students, technical education courses will offer them the best opportunity the school system has to give them for training in citizenship. Leadership in industry, agriculture, business, or home economics can only come about when our educational system is broadened to meet up the needs and aspiration of the society. The country needs nothing short of productive and profitable technologist, which

can be achieved through technical education courses. Therefore, technical education is needed to prevent waste of human resources.

2. Apprenticeship system is a training system, which began as a part of a wider education process in which the indigenous societies of Nigeria passed on their cultural heritage from one generation to the next. The skills "owned" by a family are highly valued and in some areas such as native medicine, secrets are zealously guarded, as they are indeed today. A Birom blacksmith in the Jos Plateau or a Yoruba in Ibadan will say that members of his family have been blacksmiths for generations. An ordinary village will usually show that pottery-making, for example, centers around certain families with the skills taught by a mother to her daughter or niece or a father to his son or nephew, depending on the customs of the area.
3. Learning a craft often began with personal service to the master. Young boys would become house servants to a close relative, who will feed and cloth them, and after some years of promising usefulness they would then gradually be introduced to the craft of the guardian. Crafts varied according to the area, but they include mat-making, carving of doors and of figures for shrines, building of houses, leatherwork, blacksmithing and goldsmithing, making masquerades, weaving, pottery making. Fafunwa, (1980). Age groups are generally engaged that is from 9 up to 40 years. Formal schooling of apprentices are both boys and girls from primary throughout grammar school, secondary, technical, teachers training college grade II up to university level.



4. Technical education is needed to ensure wage-earning power of workers. The practical training of worker in any pursuit brings both immediate and lasting economic returns in increased production and wage earning capacity. Technical education is needed to meet the increasing demand for trained workmen. With the rapid development in our economic sector, this has ensured a constant and increased demand upon industries for more and better goods and services. That is, technical education provides the individuals with opportunities to develop psychomotor, cognitive and affective skills, so that they can take their rightful place in society and assume responsibility beyond those only related to their selected occupation.
5. Technical colleges are regarded as a wise economic investment. It is believed that through technical education and training, boys and girls including adults will be trained to acquire saleable skills that will enable them to secure occupations, which will be beneficial to themselves and to the society. The absence of opportunity for creative work and for full expression is one of the causes of much of the present social and industrial unrest. The inability of our educational system to provide the youths with the demands of industries in its programme has led to the turning out from schools restless and discontented generation of youths. Out of this unrest comes a demand for a more practical education that will help them to progress in industries and enable them to rise to the positions of leadership and responsibility.
6. Technical colleges are needed to solve the problem of juvenile and adult delinquency and crime. It is inherent in the human race, especially the young, to want to belong, to be accepted and to be noticed by the rest of the group that sets the social pattern. Our social, educational and economic system stimulates

ambitions in the youths to desire more and better goods and services in order to keep up with the social pattern. But unfortunately, our educational system has omitted the necessary aspect of teaching the young people how to earn. Hence armed robbery, car theft, prostitution and other social vices are becoming the order of the day in the society today. Evidently, one of the cause of delinquency and crime among the youths to day is due to the fact that, they have not learned to work so as to make money legitimately and sufficiently to meet up their real or fancied wants. Technical education is therefore very necessary to give the technical talented youth a sense of social achievement and belonging, and as a prevention of juvenile and adult delinquency and crime.

## **2.7 Review of Related Empirical Studies**

Several researches have been conducted at different times and different places all towards investigating students' academic performances. A few among them are reviewed below:-

Everett (1991) investigated the self-concept configurations of high, medium and low academic achievers, using a sample of 59 female students in a Catholic residential college. A self-concept configuration academic achievers of high, medium and low was used for the study. Two null hypotheses were used and the result showed that meaningful and consistent differences did exist between the self-concept configurations of high, medium and low academic achievers. The result indicated that, there was a high relationship between self-concept and achievement whether the situation is the same with students studying technical courses in Niger State, Nigerians the concern of this study.

German (1994), studied influence of self-concept of students performance in studying science students in school. A sample of 230 students was used for the study. Path analytic model was used for data analysis. The result indicated that, self-concept positively influenced studying science subjects.

Similarly, Zeldner (1998) researched into the degree of co-variation between attitude and test performance, 259 students were used as sample. Regression analysis was used in analyzing the data. The result showed a significant difference in performance across the attitudinal groups in relation to their levels of behaviour.

Idorenyin and Monday (2004) studied the influence of self-concept and academic achievement in secondary school students in southern Cross River State of Nigeria. 530 Senior Secondary School year three (SS 3) students were used, a simple stratified random sampling techniques and a 40 item objective test and a 60-item questionnaire measuring self-concept, academic performance developed by the researcher was the instrument used for data collection. Two null hypotheses were tested using multiple regression analysis at .05 level of significance. The study revealed that students were found in all the self-concept categories. Most of the students rated themselves as realistic in their self-concepts, while the girls were predominantly intellectual in their self-concepts. There were more of boys than girls that performed well in realistic subjects area. There was a high positive correlation in all self-concept categories. There was a very high positive correlation in all self-concept categories. There were positive correlation between the self-concept of students in all the categories and their performances in the subject area. The study shows there are positive relationship between self-concept and academic achievement.

## **2.8 Summary of Review of Related Literature**

The review of related literature with respect to determining the Self-concept categories of Woodwork Technology students in Technical Colleges revealed that the students were found in all the six self concept categories. The review revealed that most of the male students rated themselves as realistic in their self-concepts, while the female students were predominantly intellectual in their self-concepts. Similarly, the reviews also show that there was positive relationship between students' realistic, intellectual, conventional and artistic self-concept and their corresponding academic achievement in the secondary schools subjects. However, there was very low relationship between social and enterprising self-concept and their corresponding subject performance.

Whether the situation is the same with students studying woodwork technology in Technical Colleges in Niger State is what the study intends to determined.

## CHAPTER THREE

### 3.0 MATERIALS AND METHODS

This chapter describes the research design, area of the study, population and sample for the study, instrument for data collection method of data collection as well as the data analysis.

#### 3.1 Research Design

The study adopted correlational research design. It is used where two or more variables are correlated or related if the influence of one variable is felt by the other variable(s) (Mohammed, Gayus, Oscar and Solomon, 2002). Correlational research designs are therefore used to determine relationship and pattern of relationship among variables in a single group of subject (Ary, Jacobs and Razavieh, 2002). Thus, design was used to determine the relationship between Self-concept and Academic Achievement of Woodwork technology students in Niger State Technical Colleges. The self-concept was the independent variable while the achievement (score) of the students in wood work technology was the dependent variable.

#### 3.2 Area of the Study

The study covered the six Technical Colleges in Niger state. These are; Technical College (G.T.C) Eyagi – Bida, Government Technical College (GTC), Kontagora, Mamman Kontagora Technical College (MKTC), Pandogari, Government Technical College (GTC) New Bussa, Government Technical college (GTC) Minna, and Suleiman Barau Technical College (SBTC), Suleja. Niger State is one of the middle belt states located in the North Western part of Nigeria. The state lies on latitude 3.20° East and longitude 11.30 North to the Equator. It is bordered to the north by Zamfara State, North

West by Kebbi State, south by Kogi State and South west by Kwara State, while Kaduna State and Federal Capital Territory bordered the state to North East and South East respectively. The State has a common boundary with the Republic of Benin along New-Bussa, Agwara and Wushishi local government areas.

### 3.3 Population of the Study

The target population for this study was 600 Woodwork Technology year two (TC II) students from the six Technical Colleges in Niger state. This category of students were chosen as population because they had made their final choice of trade to specialize in based on their aptitude, ability, interest, etc, which may relate to their self-concepts.

**Table 3.2: Distribution of the Population by Gender, From the Six Technical Colleges in Niger State.**

S/No	School	Male	Female	Total
1.	Eyagi – Bida	90	-	90
2.	Kontagora	20	3	23
3.	Minna	158	39	197
4.	New-Bussa	60	18	78
5.	Pandogari	32	5	37
6	Suleiman Barau Suleja	156	19	175
	<b>Total</b>	<b>516</b>	<b>84</b>	<b>600</b>

**Source:** Examination Section Science and Technical Schools' Board, (NSSTSB, 2008).

The male population was 516 and the female population was 84. The whole population was used because it was small.

### **3.4 Instrument for Data Collection**

The students promotion examination results of TC II in Technical Drawing, Mathematics, English language, Trade Drawing, Spray painting, Trade practical, Literature, Computer study, Building Drawing and Mechanical Drawing obtained from Niger State Science and Technical Schools' Board Examination section provided the data on Students scores in the woodwork subjects. And a structured questionnaire provided data on self-concept of students.

The structured questionnaire which was developed by the researcher consists of two Sections, A and B. Section 'A' consists of the Bio-data of the respondents used for the study section 'B' consists of students self-concept description based on Holland's six self-concept categories. There are ninety-two statements referred to as self-concept categories for the purpose on the instrument. They were grouped into Realistic (R), Social (S), Enterprising (E), Artistic (A), Intellectual (I) and Conventional (C) self-concepts. Students were instructed to rate the statements as it rightly describes their self-concept on a four points rating scale of Strongly Agree – 4, Agree – 3, Disagree – 2 and Strongly Disagree – 1 respectively.

### **3.5 Validation of the Instrument**

The instrument was subjected to content and face validation by three lecturers in the Department of Industrial and Technology Education (ITE), Federal University of Technology, Minna. The validators critique the relevance of the items for the study. Their observations were used in improving the questionnaire. The observations includes: the need to be gender sensitive in questioning, strictly reflect the six self-concept category, centred questions on woodwork trade activities, and avoidance of ambiguous questions.

### **3.6 Reliability of the Instrument for Data Collection**

Test-retest method was used to establish the reliability of the questionnaire. Forty copies of the instrument were administered on a randomly selected group of year two male and female students of Federal Science and Technical College Shiroro in Kuta Niger state who were not part of the subjects for the study. After a period of two weeks, another forty copies of the same questionnaires were again administered to the same group of students as a retest. The data generated from the completed questionnaires were analyzed using Person Product Moment Correlation coefficient ( $r$ ). The internal consistency of the instrument obtained was 0.80 which is high, while the overall reliability of the instrument was 0.86.

### **3.7 Method of Data Collection**

Data on Woodwork Technology 'TC II students' last promotion Examination in their various subjects areas were obtained from Niger State Science and Technical Schools Board, Minna by the researcher personally. The questionnaire on self-concept was administered on the students by the researcher with the help of one trained research assistant in each of the six Technical Colleges. The respondents were instructed to rate themselves as they really were not as they will like to be, and they should respond to all statements. Also they were requested to complete the questionnaire and return it immediately, however the percentage returned was 95%.

### **3.8 Method of Data Analysis**

Descriptive and inferential statistics were used in answering the research questions and testing the hypothesis respectively. To provide answer to research question



one, the mean was used to ascertain the self-concept categories of each Woodwork technology (TC II) student. The scores in each self-concept was added for each respondent and the mean for each self-concept category was computed for each student. The male student self-concept category with the highest mean score became the male's self-concept category. Also the self-concept in female category with the highest mean score became that of female. To provide answer to research question two, three and four, promotion Examination scores of each Technical College II (TC II) students in various wood work subject areas and their self-concept score ratings were used. To determine the relationship between self-concepts and academic achievement of Woodwork Technology students, the Pearson Product Moment Correlation Coefficient ( $r$ ) was used. Uzoagulu (1998) reported that when Pearson Product Moment Correlation Coefficient ( $r$ ) is used to test a hypothesis of  $P=0$ , no additional computation or statistics is required to test for significance. To test hypotheses **Ho1**, **Ho2**, and **Ho3** at their degrees of freedom and at 0.05 level of significance, the t-test was used. Where  $t$ -calculated was higher than the  $t$ -table value, the hypothesis was rejected, otherwise it was accepted.

## CHAPTER FOUR

### 4.0

### RESULTS

This chapter presents the analysis of the data for answering the research questions and testing the hypotheses. The presentation and analysis were done in accordance with the sequence of the research questions and hypothesis of the study.

#### 4.1 Research Question 1

**What are the self-concept categories of Woodwork Technology students in Technical Colleges in Niger State?**

The data that answered this research question is given in Table 4.1

**Table 4.1:** Self-Concept Categories of Woodwork Technology students in Technical Colleges

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %
1.	Realistic	Trade practical/ Period furniture	212	70
2.	Intellectual	Mathematics/Physics	151	53
3.	Social	Economic/Social study	56	69
4.	Conventional	Design and Construction/ Spray Painting	79	68
5.	Enterprising	English Language/ Computer study	72	66
6.	Artistic	Technical Drawing/ Building Drawing	30	45
<b>Total</b>			<b>600</b>	

The data in Table 4.1 show that the self-concept of wood work technology students cut across all the six self-concept categories, namely: Realistic (R), Social (S), Intellectual (I), Enterprising (E), Conventional (C) and Artistic (A), where realistic and intellectual self-concepts with the highest mean of 212 and 151 respectively, social has 56, conventional has

79, enterprising with 72 and artistic the least with 30 respondents. The data also show that majority of the respondents clustered in realistic and intellectual self-concept categories while artistic category has the least. Thus, it was inferred that woodwork technology students rated themselves as Social, Artistic, Conventional, Enterprising and mostly Realistic and Intellectual in their self-concepts.

#### 4.2 Research Question 2

**What is the relationship between self-concept of Woodwork Technology students and their academic achievement in the trade related subjects?**

The data for answering this question is given in Table 4.2

**Table 4.2: Relationship Between Self-concept and Students' Achievement in Related Subjects**

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %	r-cal.	r-table	df	remark
1.	Realistic	Trade practical/ period furniture	212	70	1.1030	.1946	210	High
2.	Intellectual	Mathematics/Physics	151	53	1.0310	.1946	149	High
3.	Social	Economic/Social study	56	69	0.7343	.2500	54	High
4.	Conventional	Design and Construction/ Spray Painting	79	68	0.7501	.2172	77	High
5.	Enterprising	English Language/ Computer study	72	66	.9877	.2319	70	High
6.	Artistic	Technical Drawing/ Building Drawing	30	45	0.3231	.3494	28	low
<b>Total</b>			<b>600</b>					

**Note:** where  $r\text{-cal.} > r\text{-critical}$ , reject; otherwise accept.

A test of Pearson Product Moment Correlation Coefficient (r) produced the following results; A high self concept of woodwork technology students and high subject achievement,  $r\text{-cal.}=1.1030$ ,  $r\text{-table value} = .1946$ . A high self concept of woodwork technology students' and high subjects achievement,  $r\text{-cal.} = 1.1030$  and  $r\text{-table value} = .1946$ . A high self concept of

woodwork technology students and high subjects related academic achievement,  $r\text{-cal.} = 0.7501$  and  $r\text{-table value} = .2172$ . A high self concept of Woodwork Technology students and a high subjects academic achievement  $r\text{-cal.} = .9763$  and  $r\text{-table value} = .2319$ . A high self concept of Woodwork students and a high subjects achievement,  $r\text{-cal.} = .7343$  and  $r\text{-table value} = .2500$ . A medium self concept of woodwork technology student and a medium subjects achievement with  $r\text{-cal.} = .3231$  and  $r\text{-table value} = .3494$ . From the data in table 4.2, it can be concluded that there was a high self-concept of woodwork technology students and a high trade subject achievement. But a low woodwork technology students Artistic Self-concept and the related Trade subject achievement.

### 4.3 Research Question 3

**What is the relationship between male woodwork technology students self-concept and their achievement in the trade related subjects?**

The data that answered this question is given in Table 4.3.

**Table 4.3: Relationship between Self-concept of Male Woodwork Technology Students and their Trade Subjects Achievement.**

**N = 516**

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %	r-cal.	r-table	df	Remark
1.	Realistic	Trade practical/ period furniture	193	76	1.1301	.1946	191	High
2.	Intellectual	Mathematics/Physics	138	68	1.0510	.1946	136	High
3.	Social	Economic/Social Study	38	67	0.9751	.3494	36	High
4.	Conventional	Design and / Construction Spray Painting	68	53	0.7313	.2500	66	High
5.	Enterprising	English Language/ Computer study	57	44	.6030	.2500	55	High
6.	Artistic	Technical Drawing/ Building Drawing	22	28	.0875	.5139	20	low
<b>Total</b>			<b>516</b>					

**Note:**  $r\text{-cal.} > r\text{-value}$ , reject, otherwise accept.

A test of Pearson Product Moment Correlation Coefficient ( $r$ ) produced the following results: A very high self concept and a very high subject achievement of Woodwork Technology male students,  $r\text{-cal.} = 1.1301$  and  $r\text{-table value} = .1946$ . A high self concept and a high subject related academic achievement of Woodwork Technology male students,  $r\text{-cal.} = 1.0510$  and  $r\text{-critical value} = .1946$ . A high self concept and a high subject related achievements of wood Technology male students,  $r\text{-cal.} .7312$  and  $r\text{-table value} = .2500$ . A medium self-concept and a medium subject related academic achievement of wood work technology male students  $r\text{-cal.} = .5131$  and  $r\text{-table value} = .2500$ . Also high self concept and a high subject related academic achievement of Woodwork Technology male students where  $r\text{-cal.} = .9757$  and  $r\text{-table value} = .3494$ . A very low self-concept and a very low subject related academic achievement of Woodwork Technology male students where  $r\text{-cal.} = .0875$  and  $r\text{-table value} = .5139$ . From the data in Table 4.3 it can be concluded that there was a high self concept of male woodwork technology students Realistic, Intellectual, Conventional, Enterprising and a high Trade Subjects academic achievement. But very low relationship between male Woodwork Technology students Artistic Self-concept and their related Trade subjects academic achievement.

#### **4.4 Research Question 4**

**What is the relationship between female wood work technology self-concept and their academic achievement in the trade related subjects?**

The data that answered this research question is given in table 4.4.

**Table 4.4: Relationship Between Self-concept and Academic Achievement of Female Woodwork Technology Students**

**N= 84**

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %	r-cal.	r-table	df	Remark
1.	Realistic	Trade practical/ period furniture	19	73	1.0131	.2875	17	High
2.	Intellectual	Mathematics/Physics	13	51	.9751	.3240	11	High
3.	Social	Economic/Social study	18	48	.9135	.3809	16	High
4.	Conventional	Design and Construction/ Spray Painting	11	56	.7132	.3809	9	High
5.	Enterprising	English Language/ Computer study	15	67	.9753	.6021	13	High
6.	Artistic	Technical Drawing/ Building Drawing	8	25	.3103	.5139	6	Low
<b>Total</b>			<b>84</b>					

**Note:** r-cal. > r-value, reject, otherwise accept.

A test of Pearson Product Moment Correlation Coefficient (r) produced the following results.

A high relationship between female students self-concept and a high trade subjects related academic achievement in woodwork technology, where r-cal. = 1.0131 and r-table value = .2875. A high self concept of woodwork female students' intellectual and a high self-concept subjects related academic achievement, r-cal. =.9751 and r-table value-.3240. A high self concept of woodwork technology female students self-concept and a high trade subjects related academic achievement, where r-cal. =.7132 and r-table value =.3809. A high self concept of female student woodwork technology enterprising self-concept and a high trade subjects related academic achievement where r-cal.=.9831 and r-table value =.6021. A high self of woodwork technology female students social self-concept and a high trade subjects related academic achievement where r-cal= .8675 and r-table value=.3809. A very low

artistic self concept of woodwork technology female students and a very low subjects related academic achievement,  $r\text{-cal.} = .3103$  and  $r\text{-table value} = .5139$ . From the Table 4.4 above, it can be concluded that there is a high self concept of Woodwork Technology Female Student's and a high trade subjects related academic achievement. But very low relationship between woodwork female students' Artistic Self-Concept and their subject related academic achievement.

#### 4.5 Hypothesis 1

**Ho<sub>1</sub>: There is no significant relationship between woodwork technology students' self-concept and their achievement in the trade related subjects.**

The data for testing this hypothesis is given in Table 4.5.

**Table 4.5: t-test Relationship Between Self-Concept of Woodwork Technology Students and their Achievement in Trade Related Subjects**

N= 600

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %	t-cal.	t-table	df	Remark
1.	Realistic	Trade practical/ period furniture	212	87	1.7731	1.658	210	High
2.	Intellectual	Mathematics/Physics	151	54	2.3101	1.658	149	High
3.	Social	Economic/Social study	56	57	3.853	1.671	54	High
4.	Conventional	Design and Construction/ Spray Painting	79	73	4.6510	1.658	77	High
5.	Enterprising	English Language/ Computer study	72	70	3.0132	1.658	70	High
6.	Artistic	Technical Drawing/ Building Drawing	30	38	3.9013	1.701	28	High
Total			600					

Note: where  $t\text{-cal.} > t\text{-value}$ , reject, otherwise accept.

The data in Table 4.5 shows that t-calculated for Realistic, Intellectual, Conventional, Enterprising, Social and Artistic Self-Concepts are greater than their t-table values at their respective degrees of freedom and .05 level of significant. Therefore, it is enough reason to reject the null hypothesis, and conclude that there is a high significant self concept of woodwork students' and their related trade subjects academic achievement.

#### 4.6 Hypothesis 2

**Ho<sub>2</sub>: There is no significant relationship between woodwork technology male students' self-concept and their achievement in the trade related subjects.**

The data for answering this hypothesis is given in table 4.6.

**Table 4.6: t-test Relationship Between Self-Concept of Male Woodwork Technology Students and their Achievement in Trade Related Subjects**

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %	t-cal.	t-table	df	Remark
1.	Realistic	Trade practical/ period furniture	193	76	1.9051	1.658	191	High
2.	Intellectual	Mathematics/Physics	138	67	1.8533	1.658	136	High
3.	Social	Economic/Social study	36	53	2.5130	1.697	34	High
4.	Conventional	Design and Construction/ Spray Painting	68	68	4.3132	1.671	66	High
5.	Enterprising	English Language/ Computer study	57	44	2.7531	1.671	55	High
6.	Artistic	Technical Drawing/ Building Drawing	22	28	3.8751	1.771	20	High
<b>Total</b>			<b>516</b>					

**Note:** where t-cal. > t-value, reject, otherwise accept.

The data in Table 4.6 shows male Woodwork Students' t-calculated for Realistic, Intellectual, Conventional, Enterprising, Social and Artistic Self-Concepts and their academic achievements are greater than their t-table values at their degrees of freedom and 0.05 level of



significant. This is enough reason to reject the null hypothesis, and conclude that there is a high significant self concept of Woodwork students and a high related trade subjects achievement.

#### 4.7 Hypothesis 3:

**Ho<sub>3</sub>: There is no significant relationship between female woodwork technology students' self-concept and their achievement in the trade related subjects.**

The data for answering this hypothesis is given in table 4.7.

**Table 4.7: t-test Relationship Between Self-concept of Female Woodwork Technology Students and their Achievement in Trade Related Subjects**

S/No	Self-Control Categories	Trade related self-concept	Self-concept mean of wood work students	Subjects performance %	t-cal.	t-table	df	Remark
1.	Realistic	Trade practical/ period furniture	19	73	1.9730	1.671	17	High
2.	Intellectual	Mathematics/Physics	13	51	4.7313	1.833	11	High
3.	Social	Economic/Social study	18	56	3.7345	1.717	16	High
4.	Conventional	Design and Construction/ Spray Painting	11	67	2.7131	1.697	9	High
5.	Enterprising	English Language/ Computer study	15	48	2.6751	1.714	13	High
6.	Artistic	Technical Drawing/ Building Drawing	8	25	4.5313	1.771	6	High
<b>Total</b>			<b>84</b>					

Note: where  $t\text{-cal.} > t\text{-tab}$ , reject, otherwise accept.

The data in Table 4.7 shows female Woodwork Students' t-calculated for Realistic, Intellectual, Conventional, Enterprising, Social and Artistic Self-Concepts and their subjects achievement are greater than their t-table values at their degrees of freedom and 0.05 level of significance. This is enough reason to reject the null hypothesis, and conclude that there is a

high significant self concept of female woodwork students and a high trade subjects related achievement.

#### **4.8 Findings**

The followings were the findings of the study:-

- A. Woodwork technology students of year two in Niger State Technical Colleges have high self concept in their trade subjects.
- B. There was a high self concept of woodwork technology students' Realistic, Intellectual, Enterprising, Conventional, Social and Artistic Self-concept and their trade related subjects achievement.
- C. There was a high self concept of male woodwork technology students' Realistic, Intellectual, Enterprising, Conventional, Social and Artistic and their trade related subjects achievement.
- D. There was a high self concept of female woodwork technology students' Realistic, Intellectual, Enterprising, Conventional, Social and Artistic and their trade related subjects.
- E. There was a high significant self concept of woodwork technology students' Realistic, Intellectual, Conventional, Enterprising, Social and Artistic and their trade related subject achievement.

## CHAPTER FIVE

### 5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

In this chapter, the discussion of the findings, summary of the study, conclusion, implication of the study, recommendations and suggestions for further studies are presented.

#### 5.1 Discussion of Findings

The analysis presented show that students have self concept in all the six self-concept categories as identified by Holland (1966). This is in agreement with the findings of Idorenyin and Monday (2004) and Everett (1991) who found students with self concept in all the six self-concept categories. This result also indicated majority of the students have high self concept in realistic and intellectual with artistic self-concept as the least. In the contrast, Idorenyin and Monday (2004) found students more dominant in social self-concept category. The nature of the school studied might have influenced the result.

Result presented shows that there was a high self-concept in wood work students' realistic, enterprising, conventional social and intellectual self-concepts and their trade related subject academic achievement. There exist low self-concept in woodwork technology students' artistic self-concepts trade related academic achievement. The findings agreed with that of Osang (1995), and Everett (1991) who found high self-concept in students' realistic enterprising, conventional, social and intellectual self-concept and trade related subjects academic achievement. But found low self-concept in woodwork technology students' artistic trade related subjects achievement. Following Holland's (1966) description of high, medium, and low self-concept categories, one may conclude that artistic trade related subjects activities are more tasking in skill acquisition, require masculine and stronger student, scientific oriented, analytical, imaginative, serious, reserved scholarly and practical minded. Prefers less concrete and physical exertion and less highly ordered activities.

The finding shows there was a high relationship between realistic, social, intellectual, conventional and enterprising self-concepts of wood work technology male students' and their trade related subject achievement. But there was a low self-concept in male, artistic Woodwork Technology students and their trade subject related academic achievement. This finding agrees with that of Idorenyin and Monday (2004), Osang (1995), German (1994) and Everett (1991) found high self-concept in students' realistic, social, conventional, enterprising and intellectual and their trade subject related academic achievement. But no self-concept in woodwork technology male students artistic self-concept and their trade subject related achievement. This disagreed with Zeidner (1998) who found no self-concept in students' realistic, social and intellectual and their trade subject related academic achievement.

The finding shows that there was a high self-concept in realistic, enterprising, conventional, social and intellectual of wood work technology female students and their subject related achievement. But low self-concept in female artistic self-concept of Woodwork Technology students' and their artistic self-concept subject related academic achievement. The finding is inline with that of Osang who in (1995) found high self-concept in realistic enterprising, conventional, social and intellectual of female students and their trade related academic achievement. But there was a low self-concept in female artistic and their subject related academic achievement.

There was high significant relationship between wood work technology students' self-concept and their subject related academic achievement. The result indicated that there was high significant relationship between Woodwork Technology students' realistic, intellectual, conventional, enterprising, social and their trade related subjects academic achievement. Thus result indicates realistic, conventional, enterprising, intellectual, social and artistic self concepts have high significant relationship between Woodwork Technology students and

their trade related subjects achievement. The results agreed with the findings of Idorenyin and Monday (2004) who found high significant relationship between realistic, enterprising, conventional, and their trade related subject academic achievement. Most importantly, the result of this finding is in agreement with some theories of trade (career) choice (the personality theory) that self-concept influences academic achievement (Brammoh, 2002).

There was high significant relationship between male Woodwork Technology students and their subject related academic achievement. The result of the study indicated that there was a high significant relationship between male Woodwork Technology students' realistic, enterprising, conventional, intellectual, social and their related trade subjects academic achievement. Thus result indicated realistic, conventional, enterprising, intellectual, social and artistic self concepts have high significant relationship between male woodwork technology students and their trade related subjects. The results agreed with the findings of Idorenyin and Monday (2004) who found high significant relationship between realistic, enterprising, conventional, intellectual, social and artistic and their trade related subject academic achievement of students. This result show majority of male students have high self concept in realistic, enterprising, conventional, intellectual, social and artistic and will perform well in realistic, enterprising, conventional, intellectual and social self-concepts subject related. The study however, contradicts the finding of Zeidner (1998) who found low significant relationship between realistic and intellectual subject related academic achievement. But a high significant relationship between conventional, social, enterprising and artistic subject related academic achievement of Woodwork students. The differences might have resulted from the nature of school group studies and the environment where the study was conducted.

There was a high significant relationship between female woodwork technology students' self-concept and their subject related academic achievement. The result of the study

indicated that there was a high significant relationship between female realistic, enterprising, conventional, intellectual, social and artistic and their realistic, enterprising, conventional, intellectual, social and artistic subject related academic achievement of wood work technology female students. Thus result indicated that realistic, enterprising, conventional, intellectual, social and artistic self-concepts have significant influence on female woodwork technology students' and their related trade subjects achievement. This result showed majority of woodwork technology female students have high self concept in realistic, enterprising, conventional, intellectual, social and artistic self-concepts and can academically achieve realistic, enterprising, conventional, intellectual, social and artistic related subjects. This agrees with the findings of Everett (1991) who found high significant relationship between realistic, enterprising, conventional, intellectual, social and artistic self-concepts and their related trade subjects academic achievement.

## **5.2 Summary of the Study**

The study adopted correlational research design. It investigated the relationship between the self-concept of woodwork technology students' and their achievement in the self-concept related subjects. The self-concept attributes such as, realistic, enterprising, artistic, social, intellectual and conventional were the independent variables while academic achieve of the students were the dependents variables. The instrument was validated and tested for reliability by three experts in the Industrial and Technology Education Department (ITE) Federal University of Technology, Minna.

The population for the study comprised of 600 Technical College class two (TC II) Woodwork students in Niger State Technical Colleges. The whole students were used, there was no sampling. All the respondents completed and returned the 600 questionnaires. The data collected were analyzed using mean, Pearson Product Moment Correlation Coefficient

(r) and t-test. Test of significance was used for testing the null hypotheses at .05 level of significance.

### **5.3 Conclusion**

Based on the findings the following conclusions were drawn: Woodwork technology students in Niger State Technical Colleges have high self-concept in all the six self-concept categories that is, Artistic, Conventional, Enterprising, Social, Realistic and Intellectual. Furthermore, it was also established that there was a very high significant relationship between Woodwork technology (male and female) students' self-concepts and their performance in trade related subjects.

### **5.4 Implication of the Study**

The result of this study has some implications for technical education in the area of selection of students for Woodwork trade in Niger State Technical Colleges. These implications include among others: students selection for Woodwork trade should be based on their self concept which may likely make them perform better in their trade related subjects and places of work. Another implication of this study is that with proper counseling, the Woodwork students are likely to have sound knowledge of their self-concept. This will enable them to identify their self concept in relation to their related subjects so as to graduate competent and qualified Woodwork students to suit the technological growth of the nation. Therefore, it will be necessary to consider students' self- concept in their choice of trade as this is likely to enhance their academic performance.

## **5.5 Recommendations**

1. Technical Colleges in Niger State should ensure that students identify and understand their Self-concept before their choice of trade.
2. Niger State Science and Technical Schools' Management Board should make it mandatory that students' choice of trade is based on the relationship between their self-concept and performance in trade subjects. This will enable them to perform very well in both the trade and general subjects.
3. Technical College students should be given adequate training to identify and understand their Self-concept for self expressions and exploration of their environment to ensure positive development and growth. This could be by taking the student on field trip, exhibitions, seminars and workshops.
4. National Business and Technical Examinations' Board (NABTEB) should review her curriculum to include career sensitization to educate and guide students early in life at Technical School level. This can also limit gender discrimination in choice of career by students.

## **5.6 Suggestion for Further Studies**

1. Relationship between self-concept and career choice of woodwork technology students in vocational schools in Nigeria.
2. Similar research should be conducted to establish the relationship between the Self-concept and students' performance for other trades in technical colleges in Niger State and other parts of the country.
3. Relationship between Self-concept and academic performance of final year students in Technical Colleges in north central states of Nigeria



## REFERENCES

- Ahiakwo, M. O.G. (2002). Mathematics achievement and academic performance in chemistry "The Nigerian teacher Today (1&2) 77.
- Ary, D., Jacob, L.C., and Razavieh, A.(2002). *Introduction to research in education*, 6<sup>th</sup> edition. Belmont, U.S.A., Wadsworth
- Atsumbe, B.N. (2005). Vocational education program in the primary schools, *A Foundation for Sustainable Youth Empowerment*.
- Bakere, C.G.M. (1975), "Some psychological concepts of academic success and failure". *African Journal of Educational Research 2(1)*.
- Braimoh, D.S. (2002). *Sociological effects of gender differences in the accessibility to science, technology and mathematics (STM)*. A Blue print for the implementation of the universal basic education. Abuja: UBE.
- Brookover, W.B. (2007). Self concept of ability in school and school achievement. *Journal of sociology of education*, 3(4), 5-7
- Ceci, S.J. (1991). *How much does schooling influence general intelligence and its cognitive components? A reassessment of the evidence*. Development psychology, 27, 703-722.
- Cooley, C.H.(2006). *Looking glass theory*. Boston, U.S.A: Allyn and Bacon publishers
- Egwuelu, J.G. (1998). "Relationship of students performance among the components of business teacher education course at college of education, Agbor" *The Nigerian teacher Today*. 6(1) 45-52.
- Ella, I.O.A. (1990). Self-concept and academic performance in senior secondary schools in Otukpo local government area of Benue State. *Unpublished M.Ed. Thesis, Nsukka University of Nigeria*.
- Everett, A.V (1991). *The self-concept of high medium and low academic achievers*. The Australian Journal of Education, 15(3), 319-324.
- Ezeilo, B.N. (1984). Locally developed semantic differential self-concept scale. *Journal of basic and applied psychology*, 1 (2), 6-10.
- Ezeji, S.C.O.A. (2001). *Guidance and counselling in education*. Nsukka, Nigeria: Chulbson International Press.
- Fafunwa, B.A. (1980). *History of education in Nigeria*. Onitsha: NPS Educational. Macmillan Education limited London.
- Federal Republic of Nigeria (2004). *National Policy on Education* (4<sup>th</sup> ed.) Lagos NERDC Press.

- Gattfredson, L.S. (1981). Circumscription and compromise: developmental theory of occupational aspiration. *Journal of Counseling Psychology*, 28 (6), 545-579.
- German, P.J. (1994). Testing a model of science process skill acquisition: An interaction with parent education, preferred language, gender, science attitude, cognitive development, academic ability and biology knowledge. *Journal of Research in Science Teaching*, 31(7), 749-783.
- Hamacheck, D.E. (1978), *Encounter with self*, New York, Holt Rinchard and Winston.
- Holland, J.N.(1966). *The Psychology of vocational choice: A theory of personality type and modern environment*. Walthan, Blasdell press
- Hurlock, E.B. (1978). *Child development (6<sup>th</sup> Ed.)*. Tokyo: McGraw-Hill Inc.
- Ibiabou, S.J.N. (1990). *Relationship between Self-concept and Occupational Preference of Adolescents in Port Harcourt*. Unpublished M.Ed. Thesis, University of Nigeria, Nsukka.
- Idoranyin M.A. and Monday T.J. (2004). *Self-concept, attitude and achievement of Secondary School Students in Science in Southern Cross River State, Nigeria*. In the African symposium vol. 4 No. 1 March 2004.
- Jack, M. (1986). *Profiles records of achievement: A review of issues and practice*. London: Cassell.
- James, A.A. (1997). "Effect of delinquent environment on academic achievement of primary six pupils in army children school Azare". *The Nigerian Teacher Today*. 5(1 and 2) 96-105.
- Jiya, J. (2003). Implications of self-concept dispositions for academic achievements. *Minna Journal of Education Studies*, 2(1): 16-19.
- Kayode, M.A. (2002). "Impact of laid down rules on the implementation of educational policies in Nigeria". *Ilorin Journal of Teachers Education Vol. 1 No. 2 Pp. 41-49*.
- Kinch, J,W. (1999). *A formalized Theory of the Self-concept*. In. J.G. man's and B.N. Meltzer (Eds.) symbolic interaction: A reader in social psychology Boston, U.S.A.: Allyn and Bacon.
- Lingdgreen, H.C. (1973). *An Introduction to Social Psychology*, 2<sup>nd</sup> edition. New York: Willey International.
- McMichael, P. (1999), "Self-Esteem, behaviour and early reading skills in infant School children in reading problems and practice. London: Ward Lock
- Mohammed, B.M. (2006). Self-concept and vocational preferences of Technical College Students in Niger State. *Unpublished M.Ed. Thesis. Nsukka University of Nigeria*.
- Mukherjee A. (1978). *Educational psychology*. Calcutta. India K.P. Basu and Co.

- Nwankwor, N.A. (1998). Student achievement in vocational and technical disciplines. A factor of vocational choice and assessment. *Zaria Journal of vocational studies* 2 (2) 150-154.
- Okoh, E.C.(2000). Fundamental issues in vocational and technical education. Kontagora, Amaka Enterprises
- Okorie, J.U. (2001). *Vocational industrial education*. Bauchi, League of Researchers in Nigeria (LRN)
- Okoro, O.M. (2006). Entrepreneurial competencies needed by business education students for self-reliance: Imperative for curriculum development. In U.A. Elizabeth; A. Afiong; O. Saline and C. Igbo. *Journal of home Economics Research Special Edition*, 2006. 152-157.
- Olokun, M. (2002). Gender inequality in higher education: A remedial approach. *The Nigeria Teacher Today*. A journal of NCCE. 10(1) 134-143.
- Onuaha, S.A. (1997). Students performance in science technology and mathematics. "*The Nigerian Teacher Today*; 5(1 and 2) 130-139.
- Omizo, M.M. and Hammett, V.L. (1981), The Dimesions of Self-concept as predictors of Academic Achievement Among Mexican. American Junior High School Students'. *Journal of Educational and Psychological Measurement* 41(3).
- Palardy, J.M. (1969), What teachers believe what children achieve. *Elementary School Journal* No. 69.
- Purkey, W. (1988). An overview of self-concept theory for counsellors. Ann Arbor, Michigan, Erickaps digest E.D. 304603. Retrieved June 6, 2005 from: <http://www.NSN.com/purkey.htm>.
- Rogers, C.R. (1961). *On becoming a person*. Bosten, U.S.A.: Houghton Mifflin.
- Salami, K.A. (1999). Study of the attitudes of secondary school students to Introductory Technology in Niger State: *Journal of Nigeria Association of Teachers of Technology*-3(1) 168-173.
- Sambo, B.I. (2000). "Effects of self-fulfilling prophecy on students' performance". *The Nigerian Teacher Today* 4(1) 191-198.
- Santrock, J.W. and Ross, M. (1975), "Effects of social comparison on facilitative self-control in young children. *Journal of Educational Psychology* 67(2 )45-48.
- Shavelson, R.J, Hubner, J.J., and Stantomn, G.C.(2003). Self-concept: Validation of construct interpretations. *Education Review* 4(6) 34-35
- Uzoagulu,A. E.(1998). *Practical guide to writing research project reports in tertiary institutions*. Enugu, John Jacobs Classic Publishers

Yilwa, A.V. (1999). *An evaluation of Nigerian junior Secondary School students' performance in science process skills*. An unpublished Ph. D. Thesis. Abubakar Tafawa Balewa University, Bauchi.

Zeldner, M. (1998). Socio-Cultural difference in attitudes towards scholastic ability examination. *Journal of Educational Measurement*, 25(1), 67-76.

## APPENDIX "A"

### RATING SCALE ON HOLLANDS'S SIX SELF-CONCEPT CATEGORIES AND TRADE PREFERENCES

Dear Respondents,

This study is to find the relationship between self-concept and academic performance.

There are two sections of the instrument, namely section 'A' Bio-data, section "B" self-concept category statements. Your cooperation in responding to the items objectively in this instrument will be highly

appreciated.

#### SECTION "A" BIO-DATA

Make a tick (✓) against your sex and age.

Name of school.....

Local Government Area.....

Sex: Male ( ) Female ( )

Age: 15 – 16 years ( ) 17-18 years ( )

19-20 years ( ) 20 and above ( )

#### SECTION "B"

This section contains six self-concept categories; each category contains statements representing self-characterization. Against each statement you are required to state the degree to which it applies to you by checking the appropriate box (✓) under the column that best describe your rating. Use the following key:

Strong agree (SA)

Agree (A)

Disagree (D)

Strongly disagree (SD)

S/NO	REALISTIC CHARACTERISTICS	SA	A	D	SD
1.	I am physically strong				
2.	I can withstand painful and difficult situations				
3.	Generally, I like keeping away from people to work				
4.	I like to think inward before act				
5.	I like to act or do things practically				
6.	I am more comfortable being alone				
7.	I like science subjects				
8.	I like creating new things				
9.	I concentrate on one thing at a time				
10.	I don't like drawing people's attention to myself				
11.	I hate to behave the way others do				
12.	I always like to concentrate on my work				
13.	I mostly like to look simple				
14.	I like handling and working with machines				
15.	I don't like to be dependent				
16.	I can endure long time physical work				
	<b>INTELLECTUAL CHARACTERISTICS</b>				
17.	I am always eager to know things I do not know				
18.	I like to listen more than to talk				
19.	I like doing things well				
20.	I prefer to learn new skills				
21.	I like reasoning about things				
22.	I admire creative ideas				
23.	I often remember facts				
24.	I like to figure things out for myself				
25.	I am economical in using money or things				
26.	I get things done very well				
27.	I am calm and gentle by nature				
28.	I make objective decisions				
29.	I often want the best out of things				
30.	I am always careful in what ever I do				
31.	I often look into details of things I do				
	<b>SOCIAL CHARACTERISTICS</b>				
32.	I often like to share things with others				

33.	I appear warm and friendly				
34.	I am always careful in handling people and situations				
35.	I take decisions based on my values and teachings				
36.	I am honest with people				
37.	I am quick to complement others				
38.	I always consider the feelings of others				
39.	I am motivated by appreciations				
40.	I enjoy interacting with people				
41.	I always try to avoid arguments and conflicts				
42.	I always help those who are in need				
43.	I prefer play to war				
44.	I am liked by people				
45.	I easily get along with people				
46.	I always look happy				
47.	I like going to place of worship				
	<b>CONVENTIONAL CHARACTERISTICS</b>				
48.	I always like to be orderly in doing things				
49.	I take things seriously				
50.	I am hard working				
51.	I prefer work to play				
52.	I like obeying rules and regulations				
53.	I make decisions very easily				
54.	I know my duties and I always do them				
55.	I like to make and stick to plans				
56.	I always do my work very well				
57.	I often doubt people				
58.	I always seek help from others				
59.	I prefer to focus on one thing at a time				
60.	I use common sense in handling people and situations				
61.	I am quarrelsome at times				
62.	I am not interested in art				
	<b>ENTERPRISING CHARACTERISTICS</b>				
63.	I do not like science subject				

64.	I am not calm and gentle by nature				
65.	I have enough energy for hard work				
66.	I like debating				
67.	I prefer a public role				
68.	I enjoy leading others to work				
69.	I admire practical solutions				
70.	I am good at getting people to do things my way or accept my point of view				
71.	I often consider implications of my actions				
72.	I enjoy undertaking difficult task				
73.	I always avoid painful situations				
74.	I can do different kinds of work equally well				
75.	I often engage in serious love affair				
76.	I am often willing to take a stand				
	<b>ARTISTIC CHARACTERISTICS</b>				
77.	I often think about things that I want to happen				
78.	I appear cool and reserved				
79.	I am careless with things				
80.	I value honesty and fairness				
81.	I get excited easily				
82.	I am motivated by achievement				
83.	I get easily touched or moved by situations				
84.	I like fun				
85.	I often act wisely				
86.	I follow my instincts				
87.	I am interested in art				
88.	I am creative				
89.	I like doing things my way				
90.	I like to act more than to listen				
91.	A lot of things interest me				
92.	I often know certain things without understanding how I come to know them.				



## APPENDIX B

### STATISTICAL TOOLS USED

1 The formula for the computation of the mean is given as:

$$\text{Mean } (\bar{X}) = \frac{\sum fX}{N}$$

Where:  $\bar{X}$  = Mean

$X$  = Score

$f$  = Frequency

$N$  = Number of items

$\Sigma$  = Sum of

2 To transform the rho (Correlation Coefficient) to  $t$ , the formula used is given as:

$$t = r_s^2 \frac{\sqrt{N-2}}{\sqrt{1-r_s^2}}$$

Where:  $t$  =  $t$ -statistics

$r$  = rho (i.e  $\rho$ ) correlation coefficient

$N$  = Number of cases (or sample size)

$N-2$  = Degree of freedom.

3 Computational formula for computing the Pearson  $r$  is given as:

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

4 Interpretation of coefficient, the following may serve as a guide to the researcher:

<u>Coefficient (r)</u>	<u>Relationship</u>
$\pm .01$ to $\pm .20$	<i>Negligible, Very low</i>
$\pm .20$ to $\pm .40$	<i>Present, Slight, but low</i>
$\pm .40$ to $\pm .60$	<i>Average, Moderate, fairly high</i>
$\pm .60$ to $\pm 1.00$	<i>High, Very high</i>

#### 4. FORMULA FOR COMPUTING THE T-TEST

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{Sd_1^2}{n_1} + \frac{Sd_2^2}{n_2}}}$$

where  $\bar{x}_1$  = mean of first group

then  $\bar{x}_2$  = mean of the second group

$Sd_1^2$  = Standard Deviation of the first group

$Sd_2^2$  = Standard Deviation of the second group

$N_1$  = No of population of the first group

$N_2$  = No of population of the second group

**APPENDIX C: LETTER OF INTRODUCTION**

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

Date: 23<sup>RD</sup> JUNE, 2008

.....  
.....  
.....

Sir/ Madam,

**LETTER OF INTRODUCTION FOR CANDIDATE CARRYING OUT RESEARCH  
WORK**

Adamu, Ahmadu Abdullahi is a postgraduate student of the Department of Industrial and Technology Education, Federal University of Technology, Minna. He is currently undertaking a research work on: **RELATIONSHIP BETWEEN SELF-CONCEPT AND ACADEMIC ACHIEVEMENT OF WOODWORK TECHNOLOGY STUDENTS IN NIGER STATE TECHNICAL COLLEGES.**

It would be highly appreciated if you could supply him with the information he may require from you. All information from you will be treated confidentially.

Thank you so much for your cooperation.

Prof. Kazeem, A. Salami

Project Coordinator

**APPENDIX D**  
**Table of t-Values**

**LEVEL OF SIGNIFICANCE FOR A DIRECTIONAL (ONE-TAILED) TEST**

	LEVEL OF SIGNIFICANCE FOR A NONDIRECTIONAL (TWO-TAILED) TEST					
	.10	.05	.025	.01	.005	.0005
	.20	.10	.05	.02	.01	.001
1	3.078	6.314	12.706	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.598
3	1.638	2.353	3.182	4.541	5.841	12.941
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.959
6	1.440	1.943	2.447	3.143	3.707	5.405
7	1.415	1.895	2.365	2.998	3.499	5.405
8	1.397	1.860	2.306	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.282	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.086	2.528	2.845	3.850
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.069	2.500	2.807	3.767
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
40	1.303	1.697	2.042	2.457	2.750	3.646
60	1.296	1.671	2.000	2.390	2.660	3.460
120	1.289	1.658	1.980	2.358	2.617	3.373
∞	1.282	1.645	1.960	2.326	2.576	3.291

Source: Table A-2 is taken from Table III of Fisher and Yates, *Statistical Tables for Biological, Agricultural, and Medical Research*, published by Longman Group UK Ltd., 1974.

APPENDIX E

Table of Critical Values of the Pearson Product Moment Correlation Coefficient.

LEVEL OF SIGNIFICANCE FOR A DIRECTIONAL (ONE-TAILED) TEST

	.05	.025	.01	.005	.0005
	LEVEL OF SIGNIFICANCE FOR A NONDIRECTIONAL (TWO-TAILED) TEST				
df=N 2	.10	.05	.02	.01	.001
1	9877	9969	9995	9999	1.0000
2	9000	9500	9800	9900	.9990
3	8054	8783	9343	9587	.9912
4	7293	8114	8822	9172	.9741
5	6694	7545	8329	8745	.9507
6	6215	7067	7887	8343	.9249
7	5822	6664	7498	7977	.8982
8	5494	6319	7155	7646	.8721
9	5214	6021	6851	7348	.8471
10	4973	5760	6581	7079	.8233
11	4762	5529	6339	6835	.8010
12	4575	5324	6120	6614	.7800
13	4409	5139	5923	6411	.7603
14	4259	4973	5742	6226	.7420
15	4124	4821	5577	6055	.7246
16	4000	4683	5425	5897	.7084
17	3887	4555	5285	5751	.6932
18	3783	4438	5155	5614	.6787
19	3687	4329	5034	5487	.6652
20	3598	4227	4921	5368	.6524
22	3233	3809	4451	4869	.5974
24	2960	3494	4093	4487	.5541
26	2746	3246	3810	4182	.5189
28	2573	3044	3578	3932	.4896
30	2428	2875	3384	3721	.4648
32	2306	2732	3218	3541	.4433
34	2108	2500	2948	3248	.4078
36	1954	2319	2737	3017	.3799
38	1829	2172	2565	2830	.3568
40	1726	2050	2422	2673	.3375
42	1638	1946	2301	2540	.3211

Table A.5 is taken from Table VII of Fisher and Yates, *Statistical Tables for Biological, Agricultural, and Medical Research*, published by Longman Group UK Ltd.,