TEACHERS' KNOWLEDGE OF PREVALENCE AND AVAILABILITY OF CURRICULUM PROGRAMMES OF GIFTED STUDENTS IN FEDERAL GOVERNMENT COLLEGES OF NORTHWEST ZONE, NIGERIA

BY

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BEING A Ph.D THESIS SUBMITTED TO THE POST GRADUATE STUDIES THROUGH THE DEPARTMENT OF SPECIAL EDUCATION, BAYERO UNIVERSITY, KANO - NIGERIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY IN SPECIAL EDUCATION

November 2016

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CERTIFICATION

I certify that this research work was conducted, written and complied by me. I also certify that to the best of my knowledge, this work has never been presented wholly or partially for the award of any degree or publication elsewhere.

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DEDICATION

This research work is dedicated to my Parents; Muhammad Ladan and Aisha Abdullahi

ACKNOWLEDGEMENTS

All thanks and glory be to Almighty Allah, Who grants me the ability and opportunity to write this thesis. May the blessings and salutations of Allah be upon our Prophet, Muhammad (May God be please with Him), His family, Companions and the Faithful follower up to the day of reckoning.

Many people contributed ideas, insights and suggestions that greatly enhanced the writing and quality of this thesis. The most famous among them is my supervisor, Professor Gaji Fatima Dantata. Who with all the administrative responsibilities had time to guide and supervised my research work. May Allah, within His ample bounties reward her abundantly.

I am grateful to Professor D. A Maiwada, Professor Ali Tijjani, Dr. Auwalu Musa Yakasai, Dr. Hassana Sani Darma, Prof. Kyauta Ibrahim, Dr. Jibrin Isa Diso, all of the Department of Special Education and Dr. Gali Said of the Department of Adult Education, all in Bayero University, Kano that offered suggestions and recommendations in the course of writing this thesis. May Allah reward them.

My gratitude also goes to the Principals, Teachers and students of the Federal Government Colleges in the Northwest zone of Nigeria, for giving me all the necessary supports needed for the study to be successful one.

I am indebted to my colleagues within and outside Bayero University, Kano for the various assistance rendered in writing this thesis. Especially, Dr. Umar Abdullahi Taura, Dr. Ya'u Dantata, Dr. Bello Shehu Karofi, Dr. Idris Isa Danladi, Dr. Kabiru Bello Dungurawa, Dr. Muhammad Adamu Kwankwaso and Malam Murtala Ubale all from Bayero University, Kano. Others are Dr. Miswaro Bello, Dr. Mather Yusuf and Malam Yusuf Bala Jibril Takai from Sa'adatu Rimi College of Education Kumbotso, Kano.

Finally, I would like to thank my family for their patience and support. May Allah reward them.

ABSTRACT

This study was directed towards finding out teachers' knowledge of prevalence and availability of curriculum programmes of gifted students in Federal Government Colleges in Northwest zone of Nigeria. The study was guided by three research questions. Survey design was employed in conducting the study. The population of the study comprised 13, 703 students and staff with a sample size of 455 students and staff. Instruments for collecting data include Teachers Nomination Checklist (T.N.C), Peer Nomination Checklist (P.N.C), Mental Ability Test (M.A.T) and Teachers Questionnaire on availability of gifted curriculum programmes (T.Q.C.P.G.S). Simple percentage was the major statistical tools used in analysing the data. The findings of study revealed that there were gifted students in the Federal Government Colleges in Northwest zone of Nigeria, the prevalence of gifted boys is higher than that of the girls and there were no gifted curriculum programmes in such schools. Recommendations given among others includes that Government should provide the school with gifted curriculum programmes , parents to allow their female children receive education up to degree level and the curriculum programmes to be designed should be appropriate to the needs of the gifted students.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
I.Q	Intelligent Quotient
T.N.C	Teacher Nomination Checklist
P.N.C	Peer Nomination Checklist

M. A. T	Mental Ability Test
T. Q. C. P.G.S.	Teachers' Questionnaire on Curriculum Programmes for Gifted Students

CHAPTER ONE
INTRODUCTION

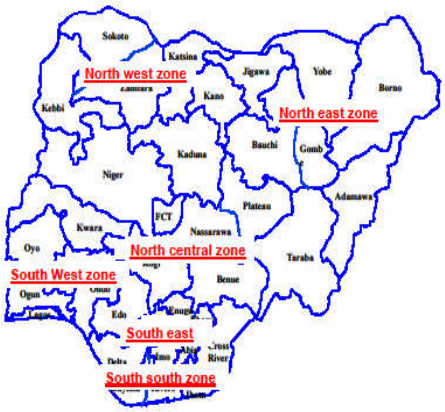
1.1 Background to the Study

Teachers' knowledge of prevalence and availability of curriculum of gifted students in Federal Government Colleges of Northwest zone, Nigeria is the title of this research work. By teachers' knowledge, it refers to teachers understanding, awareness, familiarity and total of what they know about something. According to Wikipedia, the free encyclopedia, knowledge is a familiarity, awareness or understanding of someone or something such as facts, information, descriptions, or skills, which is acquired through experience or education by perceiving, discovering, or learning. Knowledge can also be seen as a theoretical or practical understanding of a subject. It can implicit (as with practical skill or expertise) or explicit (as with the theoretical understanding of a subject); it can be more or less formal or systematic. In philosophy, the study knowledge is called epistemology. The philosopher Plato famously defined knowledge as 'justified true belief',

Knowledge acquisition involves complex cognitive processes: perception, communication and reasoning. While knowledge is also said to be related to the capacity of acknowledgement in human beings. Teachers, have to perceive the features and needs of gifted students to enable nurturing them in the Federal Government Colleges in Northwest zone of Nigeria. Gifted innate abilities in one or more areas of giftedness make them vulnerable and are insufficiently challenged within the regular school curriculum programmes. Taking such a measure will pave the way to the production of Doctors, Philosophers, Scientists, Engineers, Future leaders and inventors capable of transforming our Nation to a developed one.

Based on the above definitions and discussions, the research work was channeled to the views and understanding of the teachers on the prevalence and availability of curriculum programmes for gifted students of Federal Government Colleges in Northwest zone of Nigeria that comprised seven states as follows: Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto and Zamfara. These seven states mentioned, constituted the Northwest zone of Nigeria and could be seen in the map below.

Figure1: Map of Nigeria by Zones



Source: Google map of Nigeria

In every classroom, there are children with varying abilities; some excel in general intellectual abilities, some in specific academic aptitude, some in creative or productive thinking, some in leadership, some in visual and performing arts abilities and some in psychomotor ability. Such children learn faster, solve problems easily and think originally. These students have superior intellectual ability for naturally been endowed with special gifts. Such children are called gifted and talented are often misconceived by the society. Hallahan, Kauffman and Pullen (2009) enumerated some of the misconceptions and facts about gifted and talented children.

People with special intellectual gift are physically weak, socially inept, narrow in interests, prone to emotional instability and early decline in academic performance. The fact is, there are wide individual variations and most individual with special intellectual gift are healthy, well adjusted, socially attractive and morally responsible. Those who have special gifts or talents are in a sense super human. The fact is, people with special gifts or talent are not superhuman; rather they are human beings with extraordinary gifts in particular areas of human endeavors like everyone else, they have short comings in their behaviors. (Hallahan, Kauffman and Pullen 2009)

Children with special gifts or talents are usually bored with school and antagonistic toward those who are responsible for their education. The facts is, most children with special gifts like school and adjust well to their peers and teachers. Although some do not like school and have social or emotional problems. According to Gagne (2000) 3% to 5% of the school aged population has special gifts or talents.

Giftedness is a stable trait, always consistently evidence in all periods of a person's life. According to Hallahan, Kauffman and Pullen (2009) some of the remarkable talents and productivity of people with special gifts develop early and continue throughout life. People who have special gifts do everything well. The fact is

some people who are characterised as having special gifts have superior abilities of many kinds. Others have clearly superior talents in only one area. A person has special intellectual gifts if he or she scores above a certain level on intelligence tests. As noted by Hallahan, Kauffman and Pullen (2009) I.Q is only one indication of one kind of giftedness. Creativity and high motivation are as important as indications as general intelligence. Gifts or talents in some areas, such as the visual and performing arts, are not assessed by I.Q tests.

There is also a misconception that students who have a true gift or talent for something will excel without special education. They need only the incentives and instruction that are appropriate for all students. Some children with special gifts or talents will perform at remarkably high level without special education of any kind and some will make outstanding contributions even in the face of great obstacles to their achievement but most will not come close to achieving at a level commensurate with their potential unless their talents are deliberately fostered by instruction that is appropriate for their advance abilities. People who have special gifts or the potential for gifted performance can go through life unrecognized. These are the myth and facts about giftedness. Hallahan, Kauffman and Pullen (2009)

The National Policy on Education (FGN 2004) opined that there are gifted and talented people (children and adults) in schools who have very high intelligent quotient and are naturally endowed with special traits (in arts, creativity, music, leadership, intellectual precocity etc.) and therefore find themselves insufficiently challenged by the regular school programmes.

Giftedness as viewed by the US Commissioner of Education Sidney Marland in 1972 and the one that appear in the U.S Public Law (97 – 35 section 582). State that, gifted and talented children are those identified by professionally qualified persons, who by virtue of their outstanding ability are capable of high performance. These are children who require differentiated educational programmes and or services beyond those normally provided by the regular school programmes in order to realise their contribution to themselves and the society. Children of high performance include those with demonstrated achievement and or potential ability in any of the following areas, singly or in combination:

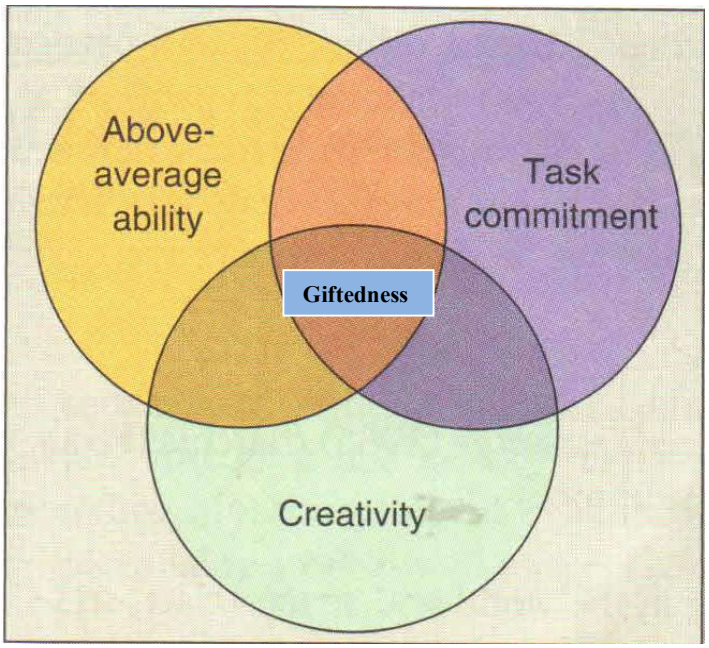
- General intellectual ability;
- Specific academic aptitude;

- Creative or productive thinking;
- Leadership ability;
- Visual and performing arts;
- Psychomotor ability.

Source:Marland's Report (1972 p.5)

Renzulli (1987) on his part expressed dissatisfaction because these definitions failed to address the problem of the composition and interaction among the various traits that make for giftedness. Thus, he defined giftedness as an inter-reaction among three basic clusters of human traits or three rings, as could be seen in the figure below:

Figure 1.1 Renzulli's three-component of giftedness



- Above average ability
- High level task commitment
- High level of creativity. (Renzulli, 1978)

Gifted and talented are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human endeavour. Children who manifest or are capable of developing in interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programmes. Critics like Davis and Rimm (2004), wisely noted that this does not imply that a student must possess all of the three traits to be considered for inclusion in a programme for the gifted students. For

example, a student may be included without knowing, his/her I.Q; correspondingly, a child may be known to have a high I.Q but may not work up to potential.

Feldhusen and Jarwan (1993) reviewed the definitions of giftedness and talented and noted that they fall into six categories: Psychometric definitions, traits definition, definitions focused on social needs, educationally oriented definition, special talent definitions and multi dimensional definitions.

Psychometric definition focus on attaining certain scores usually on intelligence tests. Terman (1925) operational definition of an IQ score of 140 is an example of psychometric definition of able children and youth. Definitions that focus on social needs include statements that giftedness is defined by what society values. An educationally oriented definition includes statements about the need for special provisions and in some cases use of a local norm reference approach. For example, a nation or a state may explicitly note a percentage of the school population to be served, usually ranging from the top 2% to top 5%. Special talent definitions are those that focus on specific domains such mathematics, the arts and science. The language used in the 1993 federal report, National excellence: a case for developing American's talent (Ross 1993), is an example of a multi-dimensional definition that crosses several categories. These children and youth exhibit high performance capability in talent, creative and /or artistic areas posses an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinary provided in the schools.

In the same vein, Ozoji (2005) asserted that, gifted and talented persons can contribute significantly to nation building. They grow to become future problem solvers, inventing new ideas and technology. No country can afford to toy with the education of such citizens, to do so is to be ever dependent on other nations that have educated and trained their gifted and talented citizens.

Silverman (1993) added a new dimension to definitions of gifted when she included the uneven development of gifted children, which she called asynchronous development. Definitions of gifted that include asynchronous development consider not only I.Q and talent, but also emotional traits of gifted children, such as heightened sensitivity. The definition developed by the Columbus Group is an example of this type of definition. Culumbus group, (1991) defined giftedness as a asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This

asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching and counseling in order for them to develop optimally.

The term giftedness refers to superior intellectual ability. In 2011, the National Association for Gifted Children published a position paper that defined what a gifted student is. The term gifted, in that position paper, describes individuals who demonstrate outstanding aptitude or competence in one or more domains. An aptitude is there defined as an exceptional ability to learn or reason. Competence is defined as documented performance or achievement in the top 10 percent of the school age population. This indicates that giftedness is a gift to both the individual and the society that needs to be nurtured. Johnson (1993) assert that, 'every gift contains a danger and whatever gift we have we are compelled to express it. If the expressions of that gift is blocked, distorted, or merely allowed to languish, then the gift turns against us and we suffer'.

It is on this basis that, this research work aimed at surveying the Federal Government Colleges in Northwest zone of Nigeria to determine the prevalence of giftedness among their students. By prevalence of giftedness, it refers to the number of gifted students in the schools. In other words, the presence of gifted students in the Federal Government Colleges in Northwest zone of Nigeria. Determining the prevalence or number of children who are gifted in the Federal Government Colleges is a challenging matter. The complexity of the task is directly related to problems associated with determining who is gifted and what constitutes giftedness. Definition of giftedness range from being quite restrictive in terms of the number of children to which they apply being very inclusive. Consequently, the prevalence estimates are not fixed but changes over the time.

Prevalence of giftedness prior to the 1950's were primarily limited to the intellectually gifted; those identified by administering intelligence tests. At that time 2% to 3% of the school aged population was considered gifted. During the 1950s, professionals in the fields of special education and psychology advocated for an expanded view of giftedness. In 1972, the U.S department of education classified giftedness into domain; including general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual and performing arts and psychomotor abilities. With this the number of gifted persons substantially raised to attract the attention of policy makers, researchers and professionals in special education.

Prevalence literally means the number of people who have a certain condition at a given time. The electronic English dictionary defined prevalence as the total number of cases of something in a given statistical population divided by the number of individuals in the population. In the same vein, Kauffman (2001) defined prevalence as the total number of cases in a given population. He added, 'prevalence is often expressed as a percentage of the population; cases divide by the population times 100'.

Researchers have shown varieties of opinion with regard to the prevalence of giftedness among students population. Some maintained 1% to 2% of the school aged population. Gagne (2000) opined that, it has been assumed in the American Federal reports and legislation that 3% to 5% of the school aged population could be consider to have special gift or talent.

Finding out the prevalence of giftedness among students of Federal Government Colleges in Northwest zone of Nigeria will in no small measure help in drawing the attention of stakeholders to the need for designing curriculum programmemes suitable for grooming and nurturing the gifted students. As well as, avoid the danger that the society may suffer from as a result of neglecting the gifted individuals in the society.

1.2 Statement of the problem

It is an indisputable fact that there is category of students who excel in their academic tasks. Actually, not all teachers are aware of the existence of such students not to talk of knowing their prevalent rate. Certainly, learners who fall under this category will require a special curriculum with a view to catering for their reach peculiarities.

This study therefore seeks to find out the extent to which teachers particularly in Federal government College are having knowledge of prevalence of such students and also whether they are aware of the availability of curriculum programmes for the gifted or not.

1.3 Objectives of the study

The aim of this study is to find out teachers' knowledge on prevalence and availability of curriculum programmes for the gifted students in Federal Government College of Northwest zone of Nigerian. The study is therefore guided by the following objectives:

1. To determine the prevalence of gifted students in the Federal Government Colleges in Northwest zone of Nigeria

2. To determine the prevalence of giftedness among males and females students in the Federal Government Colleges in Northwest zone of Nigeria.
3. To find out teachers' knowledge of the availability of curriculum programmes for gifted students in the Federal Government College in Northwest Zone of Nigeria.

1.4 Research Questions

1. What is the prevalence of gifted students in Federal Government Colleges of Northwest zone of Nigeria?
2. What is the prevalence of giftedness among male and female students of Federal Government Colleges in Northwest zone of Nigeria?
3. What are the curriculum programmes use in the Federal Government Colleges of Northwest zone of Nigeria?

1.5 Significance of the study

The study will be of significance value to the teachers, parents, researchers, school, administrators, ministry of Education and government.

The findings of this study will enable teachers the findings of this study will enable teachers understand that gifted students prevail in the Federal Government Colleges of Northwest zone of Nigeria. Teachers will also realise that both gifted boys and girls possesses the potentialities of performing per excellent in various academic areas, as such need to be treated equally.

The research work will benefit parents in providing their gifted children with sufficient and appropriate learning materials and equipments that enable them reach their potentials. The research work will also help parent decide wether to allow their gifted children continue their education in Federal Government Colleges or transfer them to a more challenging school, within or outside Northwest zone of Nigeria.

The findings of the study will assist future researchers wishing to conduct research in gifted domains of General Intellectual Ability and Specific Academic Aptitude, within or beyond the Federal Government Colleges in Northwest zone of Nigeria.

The study will also help Ministries of Educations, School Administrators and Teachers achieve a variety of important objectives. They include identifying a variety of gifted students across different subjects, using many different kinds of assessment measures to identify the gifted students, providing students of all backgrounds with equal

access to opportunities to develop their potential, identifying capacities not readily apparent in some students and taking into account students' drives and passions for achievement in various areas.

Federal Government will benefit from the findings of this study in designing appropriate and challenging curriculum programmes for the gifted students of the Federal Government Colleges. As well as provides the Colleges with more funds and qualified teachers to enable the Colleges meet the needs of the gifted students.

1.6 Scope and delimitation of the study

The study covers gifted students of Federal Government Colleges in Northwest zone of Nigeria. However, the study does not cover the average and non-gifted students in and outside Northwest zone of Nigeria. It is also delimited to prevalence and availability of gifted curriculum programmes. It is an extensive study covering all the Federal Government Colleges in Nigeria.

1.7 Operational definition of terms

Teachers' Knowledge: Refers to teachers understanding of prevalence of gifted students in Federal Government College in Northwest zone of Nigeria.

Giftedness: The term refers to cognitive superiority, creativity and motivation in combination and of sufficient magnitude that set the child apart from the vast majority of age mates and makes it possible for him or her to contribute something of particular value to society.

Talented: Refers to indication of special ability, aptitude or accomplishment in a specific area of human endeavour

Federal Government Colleges: Refers to Federal Government of Nigeria owned Post primary Schools that are not profit oriented.

Curriculum programmes: Refers to the learning experiences which students identified as gifted are expose to.

Prevalence: The term refers to the total number of gifted students divide by school aged population, times 100.

Intelligent Quotient (I.Q): Refers to the Mental Age of student divide by his/her Chronological Age times 100.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter comprises of conceptual background, origin of giftedness, characteristic of giftedness, identification procedures, curriculum programmes for gifted students, empirical studies and summary and uniqueness of the study.

2.1 Conceptual framework

Giftedness according to the Advanced Learners Dictionary (6th Edition), refers to having a lot of natural ability or intelligence. The term attracts so many definitions. For it, also refers to cognitive superiority, creativity and motivation in combination and of sufficient magnitude over the rest majority of age mate. Even though, the concept is generally more broadly concerned now than before. Gifted and talented education dates back thousands of years. During the Classical and Renaissance era, Plato (c. 427–c. 347 BCE) advocated providing specialized education for intellectually gifted young men and women. In China's Tang Dynasty (580-618 CE), child prodigies were summoned to the imperial court for specialized education. Throughout the Renaissance, those who exhibited creative talent in art, architecture and literature were supported by both the government and private patronage.

One of the earliest Western studies of human abilities was conducted by Sir Francis Galton, who between 1888 and 1894 developed and compiled measurements of over 7,500 individuals to gauge their natural intellectual abilities. In his studies, he determined that if a parent deviates from the norm, so will the child, but to a lesser extent. One of the earliest observed examples of regression toward the mean. Galton believed that people could be improved through interventions in heredity, a movement he named eugenics. He categorized people into gifted, capable, average or degenerate and recommended breeding between the first two categories and forced abstinence for the latter two. His term for the most intelligent and talented people was "eminent," and after studying England's most prominent families, concluded that one's eminence was directly related to his direct hereditary line.

At Stanford University in 1918, Lewis Terman adapted Alfred Binet'sBinet-Simon intelligence test into the Stanford-Binet test and introduced intelligence quotient

(IQ) scoring for the test. According to Terman, the unitary IQ scores was obtained by dividing a child's mental age by his or her chronological age and multiplying that figure by 100 (M.A/C.A x 100 = IQ) For example, a child with a mental age of 22 and chronological age of 15 would have an IQ of 147 (22/15 x 100= 147). Based on the mental age norms he compiled, after studying a sample of children. He defined intelligence as "the ability to carry on abstract thinking". During World War ITerman was a commissioned officer of the United States Army and collaborated with other psychologists in developing intelligence tests for new recruits to the armed forces. For the first time, intelligence testing was given to a wide population of drafted soldiers.

After the war, Terman undertook an extensive longitudinal study of 643 children in California who scored at IQ 140 or above, the Genetic Studies of Genius, continuing to evaluate them throughout their lives. Subjects of these case studies were called "Termites" and the studies contacted the children in 1921 and again in 1930, 1947 and 1959 after his death. Terman's studies have to date been the most extensive on high-functioning children and are still quoted in psychological literature today. Terman claimed to have disproven common misconceptions, such as that highly intelligent children were prone to ill physical and mental health, that their intelligence burned out early in their lives or that they either achieved greatly or underachieved.

A professional colleague of Terman's, Leta Hollingworth was the first in the United States to study how best to serve students who showed evidence of high performance on tests. Although recognizing Terman's and Galton's beliefs that heredity played a vital role in intelligence, Hollingworth gave similar credit to home environment and school structure. Hollingworth worked to dispel the pervasive belief that "bright children take care of themselves" and emphasized the importance of early identification, daily contact and grouping gifted children with others with similar abilities. Hollingworth performed an 18-year-long study of 50 children in New York City who scored 155 or above on the Stanford-Binet and studied smaller groups of children who scored above a 180. She also ran a school in New York City for bright students that employed a curriculum of student-led exploration, as opposed to a teacher providing students with a more advanced curriculum they would encounter later in life.

During the Cold War, One unforeseen result of the launch of Sputnik by the Soviet Union was the immediate emphasis on education for bright students in the United States and this settled the question whether the federal government should get involved in public education at all. The National Defense Education Act (NDEA) was passed by Congress in 1958 with $1 billion US to bolster science, math, and technology in public education. Educators immediately pushed to identify gifted students and serve them in schools. Students chosen for gifted services were given intelligence tests with a strict cutoff marks, usually at 130, which meant that students who scored below the 130 were not identified.

The impact of the NDEA was evident in schools for years after but a study on how effective education was meeting the needs of gifted students was initiated by the United States Department of Education in 1969. The Marland Report, completed in 1972, for the first time presented a general definition of giftedness and urged districts to adopt it. The report also allowed students to show high functioning on talents and skills not measurable by an intelligence test. The Marland Report defined gifted as, 'Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:

1. General intellectual ability,
2. Specific academic aptitude,
3. Creative or productive thinking,
4. Leadership ability,
5. Visual and performing arts, or
6. Psychomotor ability."

A brief description of each area of giftedness as defined by the Summer Gifted Programmes (2004) Education Resources Institute, Purdue University will help in understanding this definition

General intellectual ability or talent: Laypersons and educators alike usually define this in term of a high intelligence test score—usually two standard deviations above the mean—on individual or group measures. Parents and teachers often recognize students

with general intellectual talent by their wide-ranging fund of general information and high levels of vocabulary, memory, abstract word knowledge and abstract reasoning.

Specific academic aptitude or talent: Students with specific academic aptitudes are identified by their outstanding performance on an achievement or aptitude test in one area such as mathematics or language arts. The organizers of talent searches sponsored by a number of universities and colleges identify students specific academic aptitude who score at the 97th percentile of higher on standard achievement tests and then give these students the scholastic aptitude test (SAT). Remarkably, large numbers of students score at these high levels, (Summer Gifted Programmes, 2004)

Creative and productive thinking: This is the ability to produce new ideas by bringing together elements usually thought of as independent or dissimilar and the aptitude for developing new meanings that have social value. Characteristics of creative and productive students include openness to experience, setting personal standards for evaluation, ability to play with ideas, willingness to take risk, preference for complexity, tolerance for ambiguity, positive self-image and the ability to become submerged in a task. Creative and productive students are identified through the use of tests such as the Torrance test of creative thinking or through demonstrated creative performance.

Leadership ability: Leadership as defined in Summer Gifted Programme (2004) is the ability to direct individuals or groups to a common decision or action. Students who demonstrate giftedness in leadership ability use group skills and negotiate in difficult situations. Many teachers recognize leadership through a student's keen interest and skill in problem solving. Leadership characteristics include self-confidence, responsibility, cooperation, a tendency to dominate and the ability to adapt readily to new situations. These students can be identified through instruments such as the Fundamental Interpersonal Relations Orientation Behavior (FIRO-B).

Visual and performing arts: Gifted students with talent in the arts demonstrate special talents in visual art, music, dance, drama or other related studies. These students can be identified by using task descriptions such as the creative products scales, which were developed for the Detroit Public Schools by Patrick Byrons and Beverly Ness Parke of Wayne State University.

Psychomotor ability: This involves kinesthetic motor abilities such as practical, spatial, mechanical, and physical skills. It is seldom used as a criterion in gifted programmes. The Marland report's definition continues to be the basis of the definition of giftedness in most districts and states. Summer Gifted Programmes (2004) Education.

In 1983, the result of an 18-months-long study of secondary students was published as A Nation at Risk, and was an eye-opening declaration that students in the United States were no longer receiving superior education and in fact, could not compete with students from other developed countries in many academic exercises. One of the recommendations the book made was to increase services to gifted education programmes, citing curriculum enrichment or acceleration specifically. The US Federal Government was also urged to create standards for the identification and servicing of gifted students.

The effort of the US Federal Government leads to Jacob Javits Gifted and Talented Students Education Act. The Jacob Javits Gifted and Talented Students Education Act (1988) defined giftedness as children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment.

These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess and unusual leadership capacity or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. This was passed in 1988 as part of the Elementary and Secondary Education Act (ESEA). Instead of funding district-level gifted education programmes, the Javits Act instead has three primary components: the research of effective methods of testing, identification and programming, which is performed at the National Research Center on the Gifted and Talented; the awarding of grants to colleges, states, and districts that focus on underrepresented populations of gifted students and grants awarded to state and districts for programme implementation. Annual funding for grants must be passed by US Congress and totaled $9.6 million US in 2007 but the money was not released. While he

was President, George W. Bush eliminated the money every year of his term, but members of Congress overrode the president to make sure the grant money is distributed.

The most recent US Federal Education initiative known as 'No Child Left Behind' was signed into law in 2002. The goal of No Child Left Behind (NCLB) is to bring proficiency of all students to grade level but critics note it does not address the needs of gifted students who perform above grade level. The act imposes punishments on schools, administrators and teachers when students do not achieve to the plan's designs but does not address any achievement standards for high functioning students, forcing schools and teachers to spend their time with low achieving students. An article in The Washington Post declared, 'The unmistakable message to teachers -- and to students -- is that it makes no difference whether a child barely meets the proficiency standard or far exceeds it.' Gifted services have been recently eroding as a result of the new legislation, according to a 2006 article in The New York Times.

In 2004, the John Templeton Foundation sponsored a report titled A Nation Deceived: How Schools Hold Back America's Brightest Students, highlighting the disparity between the research on acceleration (which generally supports it, both from an academic and a psychological point of view) and the educational practices in the US that are often contrary to the conclusions of that research. The Institute for Research and Policy on Acceleration (IRPA) was established in 2006 at The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development at the University of Iowa through the support of the John Templeton Foundation following the publication of this report.

Another popular definition of giftedness is that of Renzulli (1986) that stated, "Gifted behaviuor reflects an interaction among three basic clusters of human traits: above-average general and/or specific abilities, high levels of task commitment (motivation), and high levels of creativity. According to Renzulli, gifted and talented children are those who possess or are capable of developing this composite of traits and applying them to any potentially valuable area of human performance.

These definitions will help Ministry of Educations, School Administrators and Special Education Teachers achieve a variety of important objectives. They include

identifying a variety of students across disciplines with diverse talents, using many different kinds of assessment measures to identify gifted students, providing students of all backgrounds with equal access to opportunities to develop their potential, identifying capacities not readily apparent in some students and taking into account students' drives and passions for achievement in various areas.

Tannenbaum (1997), a renowned authority in gifted education has developed a new definition for giftedness in children, as follows:-Keeping in mind that developed talent exists only in adults, He proposed a definition of giftedness in children to denote their potential for becoming critically acclaimed performers or exemplary producers of ideas in spheres of activity that enhance the moral, physical, emotional, social, intellectual or aesthetic life of humanity. He advised that, in detailing this proposed definition as it pertains to childhood promise, it is useful to answer three basic questions about giftedness in its maturity, most often in adulthood. The questions are: Who qualifies to join the pool of possibly gifted individuals?, What broad realms of achievement among pool members are judged for signs of excellence? And How does pool members demonstrate their giftedness in these domains of human accomplishments?

Tannenbaum (1997) further defined two types of gifted individuals who are performers and producers. Performance provide 'staged artistry' or highly skilled 'human services'. Producers, on the other hand, generate remarkable 'thoughts' and 'tangibles'. What makes these individuals extraordinary or gifted? Tannenbaum believes that such individuals prove their excellence through 'proficiency' and 'creativity'.

Table 1: Tennenbaum model of who, what and how of giftedness

WHO	WHAT	HOW
Producer	Thoughts Tangibles	Creativity Proficiency Creativity Proficiency
Performer	Staged artistry Human services	Creativity Proficiency Creativity Proficiency

Sources: From "the meaning and making of giftedness," by A. Tannenbaum. In handbook of gifted education edited by N Colagelo& G. Davis, 1997, p. 28

Capturing the essence of any human condition in a definition can be very perplexing. This is certainly the case in defining the human attributes, abilities and potentialities that constitute giftedness. Definitions do serve a number of important purposes. For example, definitions may have a profound influence on the number of students ultimately selected for special programmes, the types of instruments and selection procedures utilised, the scores the individual must obtain in order to qualify for specialised instruction, the types of education provided, the amount of funding required to provide services and the types of training individuals need to teach the gifted and talented. Thus, definitions are important from both practical and theoretical perspectives. Hardman, Drew and Egan (1999).

Gould (1996) states that, recognizing the many facets of human intelligent has led to dissatisfaction with previous conceptualization of general intelligence that reduce it to a single number (I.Q) that was assumed to be unchangeable. Remos-ford and Gardner (1997) and Sternberg (1997) believed that new conceptualizations of giftedness and intelligence have emerged from theoretical and research literature. Sternberg (1997) developed a new approaches to intelligence known as triachic theory of human intelligence, which suggest three kinds of giftedness: analytic, synthetic and practical.

Analytic giftedness is exhibited by people who perform well on aptitude and intelligence tests. It involves being able to take a problem apart to understand the parts of a problem

and how they are interrelated, which is a skill typically measured by conventional intelligence tests.

Synthetic giftedness are individual who are conventional thinkers who are creative, intuitive and insightful. In other words, synthetic giftedness involves insight intuitive, creativity, or adeptness at coping with novel situations, skills that are typically associated with high achievement in the arts and services.

Practical giftedness are individual that extra-ordinarily adept in dealing with problems of everyday life and those presented in their environment. In other words, practical giftedness involves applying analytic and synthetic abilities to the solution of every days problems. This is the kinds of skills that characterize people who have successful careers.

Another emerging view of giftedness has been developed by Ramos Ford and Gardner (1997). They defined intelligence or giftedness as an ability or set of abilities that permit an individual to solve problems or fashion products that are of consequence in a particular cultural setting." This perspective of giftedness is refered to as the theory of multiple intelligence. Intelligence manifest itself in linguistic, logical-mathematical, spartial, musical, bodily-kinesthetic, interpersonal and intrapersonal behaviours. The table below provides brief clarifications of each area and the persons roles associated with each type of intelligence

Table 2: Remos-Ford & Gardner Model of Multiple Intelligence

Intelligence	**Brief description**	**Related child and adult roles**
Linguistic	The capacity to express oneself in spoken or written language with great facility	Superb storyteller, creative writer or inventive speaker Novelist, lyricist, lawyer
Logical-mathematical	The ability to reason inductively and deductively to complete complex computations	Thorough counter, calculator, notation maker or symbol user:Mathematician, physicist, computer scientist
Spatial	The capacity to create, manipulate and represent spatial configurations	Creative builder, sculptor, artist or skilled assembler of models. Architect, talented chess player, mechanic and navigator
Bodily-kinesthetic	The ability to perform various complex tasks or activities with one's body or part of the body	Skilled playground games, player, emerging athlete or dancer: Surgeon, dancer, professional athlete
Musical	The capacity to discriminate musical pitches, hear musical themes, sense rhythm, timbre and texture	Good singer, creator of original songs or musical pieces: Musician, composer, director
Interpersonal	The ability to understand others actions, emotions and intents and to act effectively in response to verbal and nonverbal behaviours of others	Child organizer or orchestrator, child leader or a very social child. Teacher, therapist, political social leader
Intrapersonal	The capacity to understand well and respond to one's own thoughts, desires, feelings and emotions	A sensitive child, a resilient child or an optimistic child. Social worker, therapist, counselor, hospice worker.

Ramos Ford and Gardner Model of Multiple Intelligence

Recently, Kauffman &Hallahan (2005) noted that there is no inherent rightness or wrongness in the definitions of giftedness that professional use. Some definitions might be more logical, more precise or more useful than other but we are still unable to say that

they are more correct in some absolute sense. They added, we have to struggle with the concepts of gift and talent and the reasons for identifying individuals with gifts or talents before we can make any decision about definition. Gallagher (2000) Heller, Monks, Sternberg &Subotnik, (2000), Lohman (2006) opined that any definition of giftedness is shaped to large extent by what the surrounding culture believes is most useful or necessary for its survival.

In addition, Abdullahi, (2005) noted that, 'the terms gifted, creativity and talented are associated with people who have extra – ordinary abilities in one or more areas of performance. More open, we admire such individuals and occasionally envious of their talents. The case with which they are able master diverse and difficult concepts is impressive. Because of their unusual abilities and skills, educators and policy makes frequency assume that these individuals will reach their full potential without any specialised programmes or assistance.

2.2 Characteristics of giftedness

So many scholars advance set of characteristics of giftedness, for example Silverman (2012) and Silverman (2014), believed that a number of characteristics exhibited are that the child reasons well (good thinker),learns rapidly, has extensive vocabulary, has excellent memory, has a long attention span (if interested), sensitive (feelings hurt easily),shows compassion, Perfectionistic, intense, morally sensitive, has strong curiosity ,Perseverant in their interests, has high degree of energy ,prefers older companions or adults, has a wide range of interests, has a great sense of humor, early or avid reader (if too young to read, loves being read to), concerned with justice, fairness, judgment matures for age at times., is a keen observer, has a vivid imagination, is highly creative, tends to question authority, has facility with numbers and good at jigsaw puzzle.(P235)

Abang (2005) viewed Silverman characteristics as learning characteristics, institutional characteristics, creativity characteristics and leadership characteristics. In addition, Van Tassel-Baska (2003) stated that, there are many qualities that may characterize gifted leaders but two are key: one is preciousness. Simply put, gifted students learn more quickly than their peers. The second one is intensity, which may be seen in both the emotional and cognitive realism. The work of Debrowski (1989) has been widely used to help in understanding the intensive dimension of giftedness. According to him gifted students are apt to display these intensities in five areas, namely

i. **Psychomotor:** Energetic, often physically active and may have difficulty unwinding at bed time.
ii. **Sensual:** Great sensitivity to input from all five senses; also encompasses aesthetic awareness.
iii. **Imagination:** Vivid and detailed imagination: often “thinks in pictures” strong reaction to dreams.
iv. **Intellectual:** Loves academic challenges, learning new things: intensely curious.
v. **Emotional**: Responds to virtually all emotions in an intense manner, which can also make the student susceptible to depression.

Obviously what Debrowski (1989) has termed 'Over excitabilities' can be a two edge sword. For example, what is presented in school can cause intense interest and enthusiasm or result in withdrawal or acting out behaviuor. Further, he believes that these are not merely psychological characterizes but have roots in the central nervous system.

Although there are many lists of characteristics of giftedness. Winner Brenner (2001), has developed a very 'user friendly' short list of five, which includes:

1. Learns new material faster and at an earlier age, than age peer;
2. Remembers what has been learned forever, making review unnecessary;
3. Is able to deal with concepts that are too complex and abstract for age peers;
4. Has a passionate interest in one or more topics, and would spend all available time learning more about it if possible;
5. Does not need to watch the teacher to hear what is being said, can operate on multiple brain channels simultaneously and process more than one task at a time.

Alberta Education (2007) presents categories of giftedness and their observable characteristics as:

i General intellectual ability:

- Usually advanced vocabulary for age
- Large store house of information about a variety of topic
- Quick mastery and recall of factual information
- Rapid insight into cause-effect relationships
- Makes valid generalization about events, people and things.
- Keen and alert observer
- Great deal of independent reading
- Readily sees logical and common sense answers

ii Specific academic aptitude:

- Demonstrates inordinate strengths in a given area.
- Able to grasp underlying principles in the talent area
- Persistent in talent area and motivated internally.
- Prefers to work independently
- Can relate to older students in the talent area.

iii Creative or productive thinking

- Display unusual curiosity about many things.
- Generates a large number of ideas and or solutions to problems.
- Uninhibited in expressions of opinion
- High risk taker
- Demonstrates intellectual playfulness
- Displays a keen sense of humor and perceives humor in unlikely situation
- Sensitive to beauty
- Nonconforming
- Criticizes constructively.

iv Leadership ability

- Carries out responsibility well
- Demonstrates self-confidence
- Is well liked by classmates
- Expresses ideas well
- Adopts readly to new situations
- Enjoy being around other people
- Tends to dominate others
- Participate in must social activities at school.
- May excel in athletic activities

v Visual and performing arts ability:

(a) **Visual arts**

- Enjoys art activities
- Displays interest in other students art work
- Elaborates on ideas from other people
- Tries a variety of media
- Is critical of own work

(b) **Performing arts – comprising music and drama**

Music:

- Sustains interest in music
- Readily remembers melodies
- Displays keen awareness and identification of a variety of sounds heard at a given moment.
- Perceive fine discriminations in musical tone
- Play a musical instrument.

Drama:

- Volunteers to participate in classroom skits (a short comic performance) and plays
- Tells stories or renders accounts of experiences
- Uses appropriate gestures and formal expression to communicate feelings and thoughts.
- Holds the attention of a group when speaking
- Handles body with ease and poise
- Creates original plays or stories

vi Kinesthetic ability

- Demonstrates good control of body movements
- Has excellent eye-hand coordination
- Manipulates objects and puzzles with ease
- Able, with ease, to complete mazes and word searches
- Learns new gross motor activities readily
- Has good sense of rhythm (Alberta Education. 2007)

According to Abang (2005), although there are various characteristics among brilliant gifted children and it should not be forgotten that they also differ from one another in many ways. It is therefore not surprising that even among the gifted some individuals are tall and others are small. Some are active and other lethargic. There is however some characteristics common to most gifted children that the classroom teacher needs to be familiar with. Major characteristics he can look out for identifying gifted children in the classroom situations can be seen as expressed below:

Fundamentally, gifted children learn faster than average children do. If a gifted child and an average child were given multiplication tables to learn, the gifted child would master the tables much faster than the average one. Furthermore, gifted children have superior sense of reasoning. They can solve problems more rapidly than average children. Besides, most gifted children have already acquired a wide vocabulary by the time they start school. They comprehend reading easily because of the acquisition of a wide vocabulary, much more than the average students. They are well informed about a variety of topics. They enjoy reading hence, read intensively and therefore are very knowledgeable. They often listen with interest to news in the radio and in television.

In any case, what is important to note is that in spite of the fact that a number of characteristics have been enumerated above as a basis for the identification of gifted individuals, it does not necessarily means that all gifted children possess all of the characteristic. The implication however, as posited by Abang (2005), is that such characteristics are common to most gifted children. The fundamental point of consideration is that intelligence is a useful tool in identifying the gifted though not the only tool.

2.2 **Identification of gifted students:**

> According to Delisle and Lewis (2003) treating identifications as an event and not process identification is not a onetime event. As students mature and go through school, often previously unknown or undeveloped gifts emerge. The identification process should be ongoing throughout the school years. One should be open to taking a "second look" at a student at any point.

The advised on the use of limited methods of identification and opined that, the best advice given is usually to use "multiple criteria" and "reliable and valid measures". However, few people agree on what these criteria should be and whether they are all equal value. As well, there are few standardized instruments that are reliable and valid for identifying gifted students.

Delisle and Lewis also frown at failing to match identification criteria to programming. These they suggest should be meshed as nearly as possible. For example, a student who is gifted in math may not be particularly interested in a language based enrichment programme. The goal should be to have something in place to address an area of giftedness, even if this involves going beyond the walls of the school. Additionally, there is little value in identification if there are no services or programming. How then, should the process of identification work? The process should be in place on a regular basis as there is a developmental component to the blossoming of many gifts and talents. As well, the composition of the student body is always in a state of flux. Richert (2003) is of the view that written guidelines, regarding the identification of students, should be developed by school authorities and should match the available programmes and services.

Similarly, Clark (2002) maintained a multifactored assessment approach that uses information from a variety of sources is considered to be more accurate and equitable in identification of gifted and talented. This approach includes data from a variety of sources, including group and individual intelligence test; achievement tests; portfolios of students work; teacher nomination based on the reports of students behaviour in the class room; parent nomination; self nomination; peer nomination; and extracurricular or leisure activities.

School authorities are at liberty to consider the multifactored assessment approach and develop its identification procedure. For example, a comprehensive approach for identifying gifted students who require specialized services was first developed by the California Association for Gifted Children. This approach or model features a progressive filtering process that refines a large pool of students with potential of giftedness to a small and formally identified group. The process is time consuming and thorough, beginning with the development of a large number of students with characteristics of giftedness at the initial stage (screening); testing, consulting and analyzing data (development of profiles and case study), identification decisions and placements (committee meeting for consideration and placement in gifted programmes) and finally the development of an appropriate educational programmes for the students.

The Clark's model for identifying gifted students will substantially help the teacher to identify the students with potentials of giftedness. The teacher then prepares a report that will contribute to the multidimensional or multifactored, screening approach that is gaining in popularity among educators of gifted educations. Multidimensional screening also involves a rigorous examination of teacher reports, family history, student's inventories and work samples and perhaps the administration of good achievement or individual intelligence tests. The co-ordinator of gifted services at the school reviews this information and determines whether the result indicates a potential for giftedness and justify the referral of the case to a placement committee. If the coordinator believes there is sufficient evidence to continue, the parents are asked if they would like to refer their child to more extensive testing to determine whether he/she qualifies for gifted services. The coordinator then manages the development of a case study that includes screening data, parent interviews, test protocols, individual intelligence tests, tests in specific content areas and creativity tests. These data are compiled, organized and presented to the placement committee for consideration. The committee determines whether the student qualifies for services and what type of programme would be best suited for higher particular pattern of giftedness. The parents are an integral part of this meeting and have to agree with the results and placements decisions that are developed in committee. The student is then placed in a gifted programme, and the special education teacher or person in charge of the programme

initiates special services. This level of assessment is more focused and uses all of the previous case study materials and other assessment data to determine where students should start in the programme and the overall focus of the special education services he/she will receive.

Clark (2002), recommends that the identification process should be designed to find those children with potentials of giftedness. Subsequently educational services should focus of facilitating more means of identifying students with traits of giftedness. Current best practice for identifying gifted students from diverse cultural groups involves a multifactored or multidimensional, assessment process that meets the following criteria:

- Identification should have a goal of inclusion rather than exclusion.
- Information should be gathered from multiple sources providing both objective and subjective data (e.gparents interviews, individual intelligence testing, performance on group problem-solving tasks, motivational and behavioural factors and individual conferences with students).
- A combination of formal and informal testing techniques, including teacher referrals, the results of intelligence test and individual achievement tests, should be used.
- A general greater sensitivity to aspects of acculturation and assimilation that allows for multiple perspective to be identified and honoured should be demonstrated.
- Identification procedures should begin as early as possible, before children are exposed to prejudice and stereotyping and be continuous.
- Unconventional measures involving arts and aesthetic expression such as dance, music, creative writing and crafts should be used.
- Information gathered during the identification process should help determine the curriculum. (Clark, 2002 P.541)

Heward (2003) is of the view that, there is no formula use to identify gifted students. Ultimately, teacher knowledge, insight and wisdom are even more important than the result of standardized testing. This is particularly true with students whose first language is not English, those with disabilities and those from different ethnic and

cultural backgrounds. Some of the following sources of information should be used as part of the identification process:

- Results of standardized tests in the areas of cognitive ability, general achievement and creativity
- Teacher observations, including anecdotal reports and informal assessments, sometimes just a simple anecdote or one example of student writing, problem solving, or artistic production is sufficient
- Various checklists and inventories
- Nominations by parents, peers and self
- Interviews of students and parents (may be important as many areas of giftedness are most evident outside of school) Heward (2003 p. 538).

In addition, Renzulli (2005) suggest a high level of interest and task commitment in a particular area of learning should be given strong consideration. Some students have the ability, commitment and creativity to eventually become, not only consumers, but producers in the domains of knowledge or the visual or performing arts. Without identification and sometimes at a young age, this potential may never be realised.

2.4 Curriculum Programmes for gifted students

The Electronic English Dictionary version 1.2.2 defined curriculum as a set of courses, coursework and their contents offered at a school. While programmes refer to set of structured activities. This includes activities run in the school for the benefit of gifted students. Heward (2003) opined that, the overall goals of educational programmes for gifted students to be the fullest possible development of every child's actual and potential activities. In the broadest terms, the educational goals for such students are to enable them reach their potentials. Feelings of self-worth, self-sufficiency, civic responsibility and vocational and competence are important for everyone. However, some additional specific educational outcomes are especially desirable for gifted students.

Gifted students need both content knowledge and the abilities both to develop and use that knowledge effectively. Most educators of gifted students agree that the most important concern in developing appropriate curriculum is to match the students specific needs with quantitatively different curricular interventions.

Piirto, (2014) suggested that curriculum and instruction for gifted students should be as follows:

- **Be based on learning characteristics of gifted students in their areas of strength.** These characteristics include 'their ability to learn at a faster rate; their ability to think abstractly about content that is challenging; their ability to think productively, critically, creatively and analytically; and their ability to constantly and rapidly increase their store of knowledge, both knowledge of facts and knowledge of processes and procedures'.
- **Possess academic rigour.** The widespread abuse of grading practices, the dumping down of the curriculum and the lowered expectations of teachers have all reduce curriculum of its strength and rigour. Research skills, keyboarding and computer use, speed reading, at least one foreign language and interpersonal and affective development should be systematically taught as part of the curriculum. There is a distinct need to increase the relevance, discipline and depth of the curriculum, primarily within the regular education setting, where most gifted students are nurtured.
- **Be thematic and interdisciplinary.** Gifted students should be exposed to the structures, terminologies and methodologies of various disciplines. The skill of systematic

investigation are fundamental abilities that gifted students use throughout a life time of learning. These skills include the use of references, the use of library, the gathering of information (data) and the reporting of findings in the variety of ways. These skills may ultimately be used in diverse settings, such as law and medical libraries, museums, chemical and electrical laboratories, theatrical archives and national parks.

- **Be balanced and articulated.** Often a curriculum scope and sequence is not written for the education of the gifted students and teachers do not know why, when or what they should teach. Piirto, (2014 p. 546)

Types of curriculum programmes

There are many types of curriculum programmes for the gifted children. Some of which are addressed below:

1) **Enrichment**

Defined as adding more to the traditional subject matter content (e.g. foreign language, mathematics, sciences, law, art, music) is another way to differentiate curriculum for students of high ability. Enrichment experiences let students investigate topics of interest in greater detail than is ordinarily possible with the standard school curriculum. Topics of investigation may be based on the ongoing activities of the classroom but permit students to go beyond the limits of the day-to-day instructional activities. Kulik (1992) state that enrichment allows students to participate in subject area of interest and independently assess a variety of information and materials, the teacher can facilitate the development of gifted and talented students' competencies and skills. High-ability students who have enriched curricula will achieve more than high-ability students who do not have enriched curricula. Renzuilli (2005); Renzuilli and Reis (2000) developed an enrichment model based on the notion that children exhibit gifted behaviours in relation to particular projects or activities to which they apply their above-ability, creativity and task commitment. Students who are selected into a gifted programme through case study identification methods are engaged in enrichment activities that involve individual or small group investigation of real-life problems; they become practicing pollsters, politicians, geologists, editors, scientists, inventors and leaders. The teacher (1) help students to translate and focus a general concern into

solvable problem, (2) provide students with the tools and methods necessary to solve the problem, and (3) assist the students in communicating their findings to authentic audiences (i.e, consumers of information. Gifted students may stay in the enrichment programmes as long as they have the ability, creativity and motivation to pursue productive activities that go beyond the usual curriculum for students of their age. The model has become known as the school wide enrichment model. This model was developed in the mid-seventies and continues central to this model is the Enrichment Triad Model, designed to provide challenges and engage all students, allowing them to engage in meaningful learning and problem solving to the extent they are able. It also creates a substantive role for parents and community involvement. The Enrichment Triad Model comprised of three elements, which culminate with the students as producer of knowledge.

The Enrichment Triad Model:

This model is the central or main organ of school wide enrichment by Renzulli (2005) and it comprise the followings;

Type 1 Enrichment: This provides enrichment outside the regular curriculum for all students common example of type 1. Enrichment is drama or music performance, field trips, demonstrations, visiting authors or mini courses. These can be organized in the whole school. A whole school, a certain age group or on the basis of interest. It may be possible early in the school year to enlist parents and others in the community to plan a type 1 calendar of events early in the school year to make this the most valuable learning experience possible. It is important to prepare students through discussion, reading or demonstration before the actual events. Renzulli& Reis, also suggest giving presenters teaching tips appropriate for the age group they are addressing. For example wearing a uniform if one normally does, or bringing tools or equipment used on the job. On occasion, it may be appropriate to have an ‘advanced type1’ for students who are particularly interested in topic or course and already know something about it and are interested in that area or field.

Type 2 Enrichment: The focus of this type of enrichment is on development of pre-requisite and request skills 'learning how to learn' skills. Example include:-

1. Learning how to use library data bases
2. Engaging in exercise to develop creativity or critical thinking skills
3. Learning how to conduct an interview
4. Learning various research methodologies
5. Improving written and or oral communication skills
6. Sometimes type twos can also involve developing social and personal skills such as how to listen, work effectively in groups, and set goals. Many students can benefits from these kinds of experiences, although the level may differ for different students.

Type 3 Enrichment: In type 3 investigation, the student becomes the producer of knowledge or product, often based on interest generated from a type 1 experience. Examples are: conducting a science experiment to answer a question, creative writing, designing a set for a play, creating learning materials for other students solving a community problem or developing a pamphlet for a target audience. It is essential that the type 3 be self, not teacher chosen; that the student use primary, rather than secondary to sources in doing research and that the student have the opportunity to present his/her product or findings to an audience in some meaningful form.

Tomlinson and colleagues (2002) developed a parallel curriculum designed to challenge all high-ability learners, in both homogeneous and heterogeneous classrooms. Their curriculum is a guide to ways to enrich the classroom for all learners and is based on the idea that intelligence should be more broadly and flexibly defined than it has been in the past. Renzulli, (2005) and Renzulli and Reis, (2000)

Recently, the National Association for Gifted Children (2011) advanced 12 curriculum programmes for gifted students as follows:-

1. Differentiated Curriculum

Modification of a gifted students' curriculum programmes to accommodate their specific needs. This may include changing the content or ability level of the material. Heward

(2003) recommended other forms of curriculum differentiation outside the classroom to includes:-

- ***Internships and Mentor Programmes.*** The value of a viable mentor to the realization of giftedness or creativity has been recognized since the Middle Ages. The importance of mentors cannot be underestimated in certain artistic or scientific fields, where the development of both performance and conceptual skills is critical to success. Internships and mentorships allow gifted students to be exposed to powerful and proven educational strategies: modeling, practice and direct feedback and re-enforcements of important behaviours, within a real-world setting.
- ***Special Courses.*** Specialized courses and workshops are offered at colleges and universities, arts and culture events, museums, and recreation centres. This courses which may or may not have high school or college continuing education credits attached to them, form a rich variety of additional opportunities for students to encounter mentors, make new friends and be exposed to concepts that may not be included in the school curriculum.
- ***Competitions.*** Competitions such as odyssey of the mind, invention convention, history day, power of the pen and the like are regularly offered, usually by departments of education. These programmes provide a differentiated opportunity for all students and gifted and talented students often find a way to express their passions and abilities in this competitions.
- ***Junior Great Books***. This is a highly structured and educational programme in which students read selections from a number of areas, including classics, philosophy, fiction and poetry and then discuss their meaning with teachers. Teachers who participate in junior great books receive special training on how to use specific questioning techniques to evoke high-quality responses from the students.
- ***Summer Programmes***. Many summer programmes are available to gifted and talented students that offer educational experiences as diverse as environmental studies and space and aeronautic studies. Summer programmes are usually and relatively brief but intense learning experiences that concentrate on specific areas of intellectual, artistic or cultural affairs.
- ***International Experiences***. New Zealanders have a cultural rite they refer to as "the trek," wherein they pack their bags and travel in modest fashion to the far reaches of the planet. It is an eye-opening experience for people from a tiny Pacific island and

one that gives them an exceptional opportunity to see and touch the world in an intimate fashion. An international curricular experience can merge this act of exploration with the demands of a structured learning experience such as the International Baccalaureate programme. Numerous international programmes offer academic credit for study at participating educational agencies around the world. They are excellent opportunities to develop global interactional skills with academically rigorous studies. Heward, (2003 p.553).

2. Affective curriculum

A curriculum that is designed to teach gifted students about emotions, self-esteem, and social skills. This can be valuable for all students, especially those who have been grouped with much older students, or who have been rejected by their same-age, but academically typical, peers.

3. Heterogeneous grouping

A strategy that groups students of varied ability, preparedness, or accomplishment in a single classroom environment. Usually this terminology is applied to groupings of students in a particular grade, especially in elementary school. For example, students in fifth grade would be heterogeneously grouped in math if they were randomly assigned to classes instead of being grouped by demonstrated subject mastery. Heterogeneous grouping is sometimes claimed to provide a more effective instructional environment for less prepared students.

4. Homogeneous grouping

A strategy that groups students by specific ability, preparedness, or interest within a subject area. Usually this terminology is applied to groupings of students in a particular grade, especially in elementary school. For example, students in fifth grade would be homogeneously grouped in math if they were assigned to classes based on demonstrated subject mastery rather than being randomly assigned. Homogeneous grouping can provide more effective instruction for the most prepared students.

5. Individualized Education Programme (IEP)

A written document that addresses a student's specific individual needs. It may specify accommodations, materials, or classroom instruction. IEPs are often created for students with disabilities, who are required by law to have an IEP when appropriate. Most states are not required to have IEPs for students who are only identified as gifted. Some students may be intellectually gifted in addition to having learning and/or intentional disabilities, and may have an IEP that includes, for instance, enrichment activities as a means of alleviating boredom or frustration, or as a reward for on-task behavior. In order to warrant such an IEP, a student needs to be diagnosed with a separate emotional or learning disability that is not simply the result of being unchallenged in a typical classroom. These are also known as Individual Programme Plans, or IPPs.

6. Enrichment

On the primary school level, students spend all class time with their peers, but receive extra material to challenge them. Enrichment may be as simple as a modified assignment provided by the regular classroom teacher, or it might include formal programmes such as Odyssey of the Mind, Destination Imagination or Academic Competitions such as Brain Bowl, Future Problem Solving, Science Olympiad, National History Day, Science Fairs, or spelling Competitions. Programmes of enrichment activities may also be organised outside the school day (e.g. the ASCEND project in secondary science education). This work is done in addition to, and not instead of, any regular school work assigned. Critics of this approach argue that it requires gifted students to do more work instead of the same amount at an advanced level. In the secondary school level sometimes an option is to take more courses like English, Spanish, Latin, Philosophy, Science, etc., or to engage in extracurricular activities. Some perceive there to be a necessary choice between enrichment and acceleration, as if the two were mutually exclusive alternatives. However, other researchers see the two as complements to each other.

7. Compacting

The regular school material is compacted by pretesting the student to establish which skills and content have already been mastered. Pretests can be presented on a daily basis (pupils doing the most difficult items on a worksheet first and skipping the rest if they are performed correctly), or before a week or longer unit of instructional time. When a student demonstrates an appropriate level of proficiency, further repetitive practice can be safely skipped, thus reducing boredom and freeing up time for the student to work on more challenging material.

8. Self-pacing

Self-pacing methods, such as the Montessori Method, use flexible grouping practices to allow children to advance at their own pace. Self-pacing can be beneficial for all children and is not targeted specifically at those identified as gifted or talented, but it can allow children to learn at a highly accelerated rate. Directed Studies are usually based on self-pacing.

9. Acceleration

Pupils are advanced to a higher-level class covering material more suited to their abilities and preparedness. This may take the form of skipping grades or completing normal curriculum in a shorter-than-normal period of time (‘telescoping’). Subject acceleration (also called partial acceleration) is a flexible approach which can advance a student in one field, such as mathematics or language, without changing other studies, such as history or science. This type of acceleration is usually based upon achievement testing, rather than IQ. Some colleges offer early entrance programmes that give gifted younger students the opportunity to attend college early. In the U.S., many community colleges allow advanced students to enroll with the consent of school officials and the pupils' parents.

Acceleration presents gifted children academic material from established curricula that is commensurate with their ability and preparedness, and for this reason is a low-cost

option from the perspective of the school. This may result in a small number of children taking classes targeted at older children. However, for the majority of gifted students, acceleration is beneficial both academically *and socially*. 'Radical acceleration (acceleration by two or more years) is effective academically and socially for highly gifted students.' Some advocates have argued that the disadvantages of being retained in a standard mixed-ability classroom are substantially worse than any shortcomings of acceleration. For example, psychologist Miraca Gross reports: the majority of these children [retained in a typical classroom] are socially rejected [by their peers with typical academic talents], isolated, and deeply unhappy. Children of IQ 180+ who are retained in the regular classroom are even more seriously at risk and experience severe emotional distress. Silverman (1995) believes that acceleration is a 'necessary response to a highly gifted student's faster pace of learning'. Southern and Jones (1991) listed 15 types of acceleration options:

1. Early entrance
2. Grade skipping
3. Continuous progress
4. Self-paced instruction
5. Subject-matter acceleration
6. Combined classes
7. Curriculum compacting
8. Telescoping curriculum
9. Mentorships
10. Extracurricula programmes
11. Concurrent enrollment
12. Advanced placement
13. Credit by examination
14. Correspondence courses
15. Early entrance into junior high, high school or college. Southern, and Jones, (1991 p.549).

One common heard concern is that early admission and grade skipping will lead to social or emotional problems because the child will be in classroom with older students who are more advanced physically and emotionally. Although this concern is

understandable, some research shows that if acceleration is done properly, few, if any socio emotional problems result. After reviewing a decade of longitudinal research on the academic acceleration of mathematically precious youth, Swiatek and Benbow (1991) found no evidence that acceleration harms willing students either academically or socially.

10. Colloquium

Like acceleration, colloquium provides advanced materiel for high school students. In colloquium, students take Advanced Placement courses. However, colloquium is different from AP classes because students are usually given more projects than students in AP classes. Students in colloquium also generally study topics more in depth and sometimes in a different way than students enrolled in AP classes do. Colloquium is a form that takes place in a traditional public school. In colloquium, subjects are grouped together. Subjects are taught at different times of the day, however, usually what is being taught in one subject will connect with another subject. For example, if the students are learning about colonial America in History, then they might also be analyzing text from The Scarlett Letter in English. Some schools may only have colloquium in certain subjects. In schools where colloquium is only offered in English and History, colloquium students usually take Advanced Placement courses in math and science and vice versa.

11. Pull-Out

Gifted students are pulled out of a heterogeneous classroom to spend a portion of their time in a gifted class. These programmes vary widely, from carefully designed half-day academic programmes to a single hour each week of educational challenges. Generally, these programmes are ineffective at promoting academic advancement unless the material covered contains extensions and enrichment to the core curriculum. The majority of pull-out programmes include an assortment of critical thinking drills, creative exercises, and subjects typically not introduced in standard curricula. Much of the material introduced in Gifted pull-out programmes deals with the study of Logic, and its application to fields ranging from Philosophy to Mathematics. Students are encouraged to apply these empirical reasoning skills to every aspect of their education both in and

outside of class. In some elementary classes such as math, students divide classes based on level: highest (gifted), median and lowest.

12. Cluster Grouping

Cluster grouping is the gathering of four to six gifted and talented and/or high achieving students in a single classroom for the entire school day. Cluster teachers are specially trained in differentiating for gifted learners. Clusters are typically used in upper elementary grades. Within a cluster group, instruction may include enrichment and extensions, higher-order thinking skills, pretesting and differentiation, compacting, an accelerated pace, and more complexity in content.

Source: the National Association for Gifted Children (2011).

2.5 **Empirical studies.**

Aloysives (2004) conducted a study on giftedness among students in a dissertation titled, "identification and characteristics of giftedness and talented children in Wudil Local Education Authority. The researcher conducted a survey on 4 primary schools in Wudil Local Government Education Authority. Stratified random sampling was used to seek out 480 primary school pupils as a sample that represents the entire population of primary school students in the Wudil Local Government Education Authority.

In an attempt to investigate the topic, the researcher raised and formulated four research questions and hypothesis, respectively. The research questions were answer and the hypotheses were tested leading to utilizing two data collection instruments as follows:-

1. The Torrance circle test (TCT) which was designed for an objective assessment of creative potentials of children and youths being screened for giftedness.
2. The standard progressive matrices (SPM). These are the two research instruments the researcher used to gather data used to answered the four research questions as well as test the hypothesis.

   The finding showed that:

   i. With the multiple criteria approach (MCA) pupils were easily identified to be placed for gifted education programme (as more or less gifted).

   ii. There is a significant differences in the matrix value of those pupils identified as gifted those found to be eligible for gifted education and those found to be less eligible as gifted

   The more gifted or less gifted, pupils could be capably isolated irrespective of their socio-economic and cultural background.

   iii. There was significant correlation between teachers, parents and peers in the overall matrixes value of pupils. However, teachers and peers identify the more gifted pupils than parent.

   iv. The two instruments used in that research (Torrance circle test (TCT) and standard progressive matrices (SPM), were significantly effective

and were hereby used in determining the proportion of understanding pupils considered eligible as gifted.

v. Intelligence and intellectual abilities of gifted pupils are the most valid approach in determining the proportion of pupils to be identified as gifted.

Secondly, the National Association for Gifted children (2011) conducted a study on American's gifted educations programmes implementations. Beside the numerous programmes and curriculum it run, it also offer summer enrichment programmes. These offer a variety of courses to primary and secondary schools students that mainly take place in the summer (i.e, on 22nd June to 23rd September every year). Summer schools are popular in the USA. Entrance fees are required for such programmes and programmes typically focus on one subject or class for the duration of some days. Within the United States, in addition to programmes designed by the state, some counties also choose to form their own Talented and Gifted Programmes (TAG). Sometimes this means that an individual county will form its own TAG programme; sometimes several counties will come together if not enough gifted students are present in a single county. Generally, a TAG programme focuses on a specific age group, particularly the local TAG programmes. This could mean elementary age, (i.e primary school pupils) or high school age, (secondary school students) or by age such as 9 to 14 years old students. These classes are generally organized so that students have the opportunity to choose several courses they wish to participate in. Courses offered often vary between subjects, but are not typically strictly academically related to that subject. For example, a TAG course that could be offered in history could be the students learning about a certain event and then acting it out in a performance to be presented to parents on the last night of the programme. These courses are designed to challenge the students to think in new ways and not merely to be lectured as they are in school.

In the same vein, the National Association for Gifted Children (2011) conducted another study on nurturing giftedness among students in which a full-time separate classes or schools were run in United States of America. Gifted students are educated in either a separate class or a separate school. Classes like this are sometimes called 'Congregated Gifted Classes'. Separate or independent schools are schools with a primary mission to serve the needs of the academically gifted. Such schools are relatively

scarce and often difficult for families to locate. Some of these schools can be located on the Wikipedia article entitled: 'List of gifted and talented programmes. Another resource for locating gifted schools in the United States can be found on the National Association for Gifted Children's 'Resource Directory' accessible through their home page. Such schools often need to work to guard their mission from occasional charges of elitism, support the professional growth and training of their staff, write curriculum units that are specifically designed to meet the social, emotional and academic talents of their students and educate their parent population at all ages. Some gifted and talented classes offer directed studies, where the students lead a class themselves and decide on their own projects, tests and all other assignments. These separate classes or schools tend to be more expensive than regular classes, due to the usually smaller class size. Not-for-profit (non-profit) schools often can offer lower costs than for-profit schools. Either way, they are in high demand and parents have to pay part of the costs.

Furthermore, Silvermen and Miller (2007) conducted a study at the Gifted Development Centre in Denver, Colorado on equating giftedness with achievement in school or with the potential for noteworthy achievement in adult life. The study that tested 5,200 children contributed substantial in identifying gifted persons and yielded the following finding. Giftedness is found in all children regardless of race or colour. Moreover, giftedness is colour blind and is found in both whites and black races across the world. Secondly, giftedness was also identified in children who are economically disadvantaged and is distributed across all socio-economic levels unlike the achievement view of Sir, Francis Galtan's study of eminent men that throughout history were predominantly white middle or upper class males. Even though the percentage of gifted students among the upper classes may be higher but the vast majority of gifted children come from the lower classes. Lastly, it was discovered that both boys and girls shows potentials of giftedness the study shows that 60% of the 5,200 identified gifted children were boys and 40% were girls.

Moreover, in a study conducted by Gambo (2015) titled, 'Efficacy of curriculum enrichment on academic performance of gifted students of special secondary schools in Bauchi state. The population of the study was 59 out of which 42 students were boys and 17 were girls. A sample of 14 subjects were selected in Federal Government College Azare, Federal Government College Kafin Madaki and Federal Government College

Toro and purposive sampling technique was used. The researcher employed intelligence test to answer three research questions and tested three hypothesis. While the data collection instruments used was test on experimental controlled group. Findings: the null hypothesis which states that there was no significant difference in the mean scores between the experimental and control group was rejected. The finding therefore, showed that there was significant difference in the performance of the two groups. Again, there was no significant gender difference in the student's performance within the experimental group, therefore the null hypothesis was upheld.

In addition, Kulik (1992a, 1992b) conducted a study titled, 'A meta – analysis of 23 studies of acceleration programme for gifted students. The researcher examined several forms of accelerations programmes. The findings showed that acceleration curriculum programme provide the followings:- It is a motivating programme to a highly gifted student's to learn at faster pace or rate. Student's whose classes were accelerated generally outperformed those who were not accelerated but were of the same ability levels.

Also, Katerina, Maria, K, Polina, Maria E, Constantinos and Marios (2010) conducted a study titled, 'Perceptions on teaching the mathematically gifted students. The study was aimed to describe and analyse the structure of the perception of elementary school teachers concerning mathematically gifted students. The researchers selected 377 elementary school teachers, using a questionnaire of 21 statements on a 5 point likert type scale. The finding of the study revealed that teachers perceptions regarding gifted students in mathematics can be described across four dimensions as followings:- teachers needs, teachers self – efficacy belief, characteristics of the gifted students and the different services delivered to meet the needs of the gifted students. With regards to teachers need, the study revealed that teachers were not trained on gifted education in the process of teacher preparation and training or teacher education programmes. As such, it is necessary for the teachers to receive training to enable them teach gifted students; have a counselor in each school to assist the teachers; and the ideal is to have special teachers for gifted students in each school.

Johnson, (2000) and Van-Tasssel – Baska (2007) noted that due to the complexity of giftedness it is of great importance that teachers have specialised training and preparation in gifted education, namely in identification and nurturing the gifted students Van-Tassel-Baska (2007) commented that, teachers of the gifted students need

to be able to address multiple objectives at the same time, recognise how students might manipulate different higher level skills in the same task demand and easily align lower level tasks within those that require higher level skills and concepts. Moreover, Tyler – wood et al (2000) indicated that the majority of teachers have neither the time qualifications nor sources to develop and implement a differentiated curriculum.

Based on the teachers self – efficacy beliefs, teachers do not have the idea of how to handle the numerous academic needs of the gifted students. Gifted students often ask difficult questions that teachers could not answer. Most teachers prefer not to have a gifted student in their classroom. White some teachers were not even aware of the criteria of identifying a truly gifted child. Lee and Bailey (2003) noted that, low teachers efficacy beliefs in meeting the needs of gifted students, their lack of relevant teacher training which is partially originated by the lack of preparation for this task during their graduate studies, reveals the intensity of this phenomenon.

While the teacher's perception with regards to gifted students' characteristics. The study revealed that, the elementary school teachers failed to identify the characteristics of the mathematically gifted students in their school. Mathematically gifted students are characterised by an expanded cognitive base and are more capable of exploiting knowledge in order to realize their objectives. Kathnelson and Colley (1982) stated that, a necessary trait of a teacher of the gifted students should be the knowledge of their characteristics and needs. Teachers need to understand that gifted students excelled in general of specific areas. Hettinger and Carr (2003) assert that gifted students are flexible in using different strategies and they should be able to select the most suitable strategy for each situation in combination with the possession of complex meta cognitive and self regulative skills to proves the depth of their understanding. In addition, Johnson (2000) reported that mathematically gifted students give original explanations and have the ability to organized data, transfer knowledge and generalise ideas. Rotigel and Lupkowski – Shoplik (1999) observed that gifted students are often more interested and performs better in tasks that require mathematical reasoning than computational process. As far as their interests are concerned, gifted students prefer to discuss with adults and to be involved with professionals. They are more favourable to advanced issues than their classmates, e.g mathematical proof and political space. The study revealed that the different services delivered to meet the needs of the gifted students are inadequate. It is for this reason that the study suggested the followings: -

i. The ministry of education should send material for the gifted in order to differentiate their work.
ii. The school should support gifted students not only students who experience difficulties. They should be given opportunities to take advantage of their talents and experiences according to their interest. Challenging activities should be provided in order to avoid boredom.
iii. It is difficult for them to follow a mechanical learning path thus the learning process should conform to their personality and allow for creative activities
iv. Gifted students do not always prefer to have differentiated work sometimes they prefer to work like the others, particularly in the first academic level, they do not want to differ.
v. They should help low – ability students and facilitate teachers work.
vi. They can develop their talents out of school motivated and supported by their parents.
vii. The fact they have different potentials than those of their classmates is enough. They do not need any other differentiation.

Accordingly in a study conducted by Ahmad (2014) titled, 'the prevalence of giftedness among public primary school pupils in selected schools in Gabasawa local education authority in Kano State. The researcher raised three research questions that were answered, using descriptive survey design. A population of one hundred and twenty pupils from class five and six in three selected primary school was used and 36 pupils were selected as the sample of the study using purposive sampling technique. The researcher used teacher nomination on pupils academic records and the standard progressive matrix test to gather data and answer the formulated research questions.

The findings revealed that:

1. Giftedness is prevalent among public primary school pupils in Gabasawa local education authority on the ground that the tested gifted students scored 130 to above in the intelligence test.
2. The rate of giftedness among the students population in the selected school was 3.33%; and
3. The ratio of giftedness based on gender was 75% were boys while 25% were girls.

In another development a study conducted by Ibrahim in (2014), 'titled comparative analysis of gender and academic achievement of gifted students in Suleja Federal Government Academic in Niger State. The researcher used casual comparative survey design to answer two research questions and tested two hypotheses. The population of the study was seven hundred and twenty four students. A simple random sampling technique was used to select a sample of one hundred students. The study revealed that there was no significant difference between male and female in academic achievement of gifted student in 2008 WAEC/Mathematic result and 2010 English result. While the second tested hypothesis indicated that there was no significant difference between male and female student in academic achievement of gifted students in WAEC English result of 2009 and mathematics result of 2012 in Suleja Federal Government Academy.

In another study conducted by Tuggar (2014) titled, 'Effects of curriculum enrichment on the educational achievement of gifted students in Bamaina gifted academy in Jigawa State, the researcher employed a true experimental design to answer two research questions and test two hypotheses. The population of the study was sixty students in the junior classes. The researcher used purposive sampling technique to select a sample of twenty eight students. The findings of the study were two as follows: there was no significant difference in the educational performance of gifted students between those exposed to curriculum enrichment strategy and those not exposed to any treatment while there was a significant difference in the educational performance of the gifted students in the post – test. The finding on the tested second hypothesis indicated that there was no significant gender difference in the educational performance of the gifted students when remediated with curriculum enrichment strategy. In addition, there was also no significant gender difference in the educational performance of gifted students in the post test in Bamaina gifted academy.

In another study conducted by Adam in (2004) titled, 'Availability and effective utilization of special needs teachers and instructional materials for inclusion of gifted students in Madobi Iya Special primary school, Kano State. The researcher employed a cross sectional survey design to answer two research questions. The population of the research work was 2817 primary school students and the sample of the study was ten students, using purposive sampling technique. A structured questionnaire for both teachers and students was used as the data collection instrument in the study. The finding

of study include the followings:- majority of the school teachers were not qualified to teach in the primary school nor in the special education units or in the gifted classes. Secondly, the teachers were not professional in teaching gifted students due lack of training and re-training.

Finally, in a study conducted in Indiana University Northwest and University of lowa by Szymanski and Sha (2013) titled, 'perspectives regarding gifted diverse students. The study examined the teachers views on gifted students of different cultural and ethnic groups using consensual qualitative research design. Many scholars contributed in studying various views on the issues of teachers knowledge on the education of the divers gifted students. McBee (2010, 2006), Salvia Yseeldyke and Bolt (2010) stated that teachers are often called upon to recommend children for a variety of services and programmes in schools. Students who requires services beyond the general education classroom, whether they are English language classes special education resource, accommodations for behavioral disorders or gifted programme, often depend on the classroom teachers ability to recognize the student's learning needs. Teacher's perceptions of students needs are influenced by the individual experiences of both the students and teachers. Berman, Schultz, and Weber (2010), Ford (2012) and McBee (2010) noted that, differences in language and culture may cloud the perceptions and understanding of student behaviours. Teachers need education training and support to develop the skills to make these recommendations. Exploring the multiple perspectives teachers bring to the task helps to understand their expectations regarding who should among the whites, blacks, Hispanics, Asians, or Pacific Islander's students are included in gifted programming. The finding of the study revealed the followings: Students there were native English speakers have been seriously underrepresented in gifted programmes and argue that teachers lack diversity and cultural competence and hold low expectations for Blacks, Hispanic, Asians and Pacific Islander's students; it was observed that the achievement gab between high achieving students is larger than that between average or low achieving students; some teachers held outdated beliefs regarding giftedness beliefs that significantly influence the educational experience of gifted students; and there was mismatch between teacher indentations and teacher actions on behalf of diverse students. Since it is important to examine teacher's perspectives on issues related to the awareness and identification of giftedness in culturally and racially diverse students.

2.6 **Summary and uniqueness of the study**

The researcher provides the summary of chapter two. The literature reviewed centred on the concepts of giftedness, as well as classes of giftedness. Fundamental characteristic of giftedness have also been highlight. The identification procedure reviewed in line with Clarks (2000) curriculum programmes for the gifted student was seen from the perspective of the National Association for gifted children (2011) These include differentiated curriculum, affective curriculum, heterogeneous groupings, homogeneous groupings, enrichment curriculum, compacting curriculum, self facing, acceleration, colloquium, pullout and cluster grouping.

This study is also unique because it is different from most of the previous studies conducted. Most of the differences boarders around geographical location, population, sample size and variable under investigation. The study is also unique because to the best of my knowledge, there was no similar studies conducted in the North-west zone of Nigeria on the research topic.

CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter comprises the research design, population and sample, population of the study, sample size, sampling techniques, data collection instrument, data collection procedure, validation and reliability of instruments and data analysis procedure

3.1 Research design

A survey design was employed for this study. Bichi (2004) noted that, unlike historical research, which is concerned with the past and experimental research, which concentrates on the discovery of basic relationships among phenomena, survey research is concerns with the present and attempts to determine the current status of the phenomena under investigation.

The reason for choosing survey design was that it will enable the researcher to analyse behaviour, answer research questions or test hypothesis. Its main objective is to discover the relative incidence, distribution and relationship among sociological, psychological and education variables. Survey research generally focuses on people, their psychological facts such as sex, income, political and religious affiliation, socioeconomic status, education, age, occupation and how these relate to psychological variables which include opinions and attitude in one hand and behaviour on the other.

3.2 Population and sample

3.2.1 Population of the study:

The populations of the study consist of 13,703 students and staff. Out of which 13,623 were the and 80 were the staff. The study comprised all the students and staff in all senior section of the Federal Government Colleges in Northwest Zone of Nigeria. The researcher selected one Federal Government College in each of the seven states of the Northwest zone with the exception of Kano State in which two schools were selected making a total of 8 schools. The essence was to enable the researcher have equal representation of gender among the student. The present study took cognisance of those Federal Government Colleges of Northwest Zone of Nigeria only. The population of the study is 13,623 students and 80 staff making a total of 13,703 as presented in the table below:-

Table 3: Population of the study in the selected Federal Government Colleges

S/NO	SCHOOL	STATE	POPULATION		
			STUDENTS	STAFF	
1	F.G.G.C. KAZAURE	JIGAWA	965	10	975
2	F.G.C. KADUNA	KADUNA	2647	10	2657
3	F.G.G.C. MINJIBIR	KANO	1185	10	1195
4	F.G.C KANO	KANO	3076	10	3086
5	F.G.C. DAURA	KATSINA	2025	10	2035
6	F.G.G.C. GWANDU	KEBBI	685	10	695
7	F.G.C SOKOTO	SOKOTO	2560	10	2570
8	F.G.C ANKA	ZAMFARA	480	10	490
Total			**13,623**	**80**	13,703

Source: Federal Government Colleges in Northwest Zone of Nigeria (2015)

3.2.2Sample

The researcher identified a sample of 375 gifted students and 80 staff making a total of 455 sample in the selected Federal Government Collages of Northwest zone of Nigeria. The sample comprised 455 subjects. Out of this 278 were males while 177 were females. The breakdown of the sample of the study could be seen in the table below:-

Table 4: The sample of the study

S/NO	RESPONDENTS	MALE	FEMALE	TOTAL
1	Teachers	57	23	80
2	Students	221	154	375
	Total	278	177	455

3.2.3 Sampling techniques

The sampling technique employed in this study was purposive sampling which is a non probability sampling technique. Bichi (2004) described a non probability sampling as a technique that does not make randomness assumption. That is, element in the population do not have equal chance of being included in the sample. He added by defining purposive sampling as only element judged to be typical or representative are chosen from the population for inclusion in the sample. Therefore 455

respondents were drawn from a population of 13,703 students and staff of Federal Government Colleges in Northwest zone of Nigeria.

The researcher employed purposive sampling technique on the ground that only the students that exhibit traits of giftedness were considered for inclusion as sample or respondents. As such, selection of the samples was based on screening.

Stage I: Short listing the students that perform per excellent in examination.

In the first place, the researcher requested the selected schools to present the list of those students who obtained the highest scores in the achievement test (i.e., the promotional examination). As such, the students that took the first position to fifth position in each of the senior section of the Federal Government College were short listed and compiled to be 2024 in all the selected Federal Government Colleges in the Northwest zone of Nigeria.

Stage II: Identifying gifted students based on Teacher Nomination Cheeklist.

These 2024 students believed to academically perform better than other students in the various schools were computed in the Teacher Nomination Checklist. The teachers in the schools were required to nominate students that exhibit traits of giftedness. The teachers then tick the characteristics of giftedness that each student fits in. At the end of the exercise those students that fit into 17 characteristics of giftedness out of the 25 characteristics in the Teachers' Nomination Checklist (T.N.C) were 914.

Stage III: Identifying gifted students based on Peer Nomination Checklist.

At this stage, the researcher issued the 2024 selected students with the Peer Nomination Checklist. The P.N.C contained the same 25 characteristics of giftedness as in the Teacher Nomination Checklist. The Peers were required to nominate those students assumed to be gifted, among themselves. As such, the students with traits of giftedness were 954.

Stage IV: Identifying gifted students based on T.N.C and P.N.C.

After the teachers' and peers' identification exercise, the researcher then collected the T.N.C and P.N.C and compiled the names of those students that appear in both the T.N.C and P.N.C. The researcher recorded 884 students that appeared in both the T.N.C and P.N.C. This marked the fourth stage of gifted identification exercise or process. The table below shows the students that were nominated by both the teachers and peers.

Table 5: Showing the list of nominated students in both T.N.C. and P.N.C

S/N	Schools	State	Status	Gender	Pop	Nominated Students
1	F.G.G.C-Kazaure	Jigawa	Girls	F	965	80
2	F.G.C Kaduna	Kaduna	Co-education	M	2647	154
3	F.G.G.C Minjibir	Kano	Girls	F	1185	88
4	F.G.C Kano	Kano	Co-education	M	3076	177
5	F.G.C Daura	Katsina	Co-education	F	2025	114
6	F.G.G.C Gwandu	Kebbi	Girls	F	685	74
7	F.G.C Sokoto	Sokoto	Co-education	M	2560	125
8	F.G.C Anka	Zamfara	Co-education	M	480	72
	Total				13623	884

Sources: Federal Government Colleges in Northwest zone of Nigeria.

Stage V: Identifying gifted students based on Mental Ability Test.

At this stage, the **884** Nominated students were required to sit for an intelligence test. Abdullahi (2010) stated that, 'intelligence test offered the first means of locating bright children and plans for meeting their special needs could then be developed'. As such, Slavin Mental Ability Test (2006) was administrated. All the 884 nominated students sat for that intelligent test. The researcher marked the test and only **813** passed the test. The table below shows the result of the nominated students after they sat for Mental Ability Test.

Table 6: showing the students' result in the Mental Ability Test (M.A.T)

S/N	Schools	State	Status	Gender	Pop	T.N.C and P.N.C nominated students	M.A.T
1	F.G.G.C-Kazaure	Jigawa	Girls	F	965	80	72
2	F.G.C Kaduna	Kaduna	Co-education	M	2647	154	143
3	F.G.G.C Minjibir	Kano	Girls	F	1185	88	82
4	F.G.C Kano	Kano	Co-education	M	3076	177	164
5	F.G.C Daura	Katsina	Co-education	F	2025	114	109
6	F.G.G.C Gwandu	Kebbi	Girls	F	685	74	65
7	F.G.C Sokoto	Sokoto	Co-education	M	2560	125	115
8	F.G.C Anka	Zamfara	Co-education	M	480	72	63
	Total				13623	884	813

Sources: Federal Government Colleges in Northwest zone of Nigeria.

Stage VI: Identifying gifted students based on Intelligent Quotient Test.

At this stage, the researcher used the Intelligent Quotient formula which is as follows:

$$\text{I.Q} = \frac{\textit{Mental Age}}{\text{Chronological Age}} \times 100$$

The researcher worked out the Intelligent Quotient (I.Q) of the **813** students that passed the Slavin Mental Ability Test. The Mental Age of each of the students was divided by his/her Chronological Age and multiplied by **100** but only **375** students' scored an intelligence Quotient (I.Q) of 140 to above. The 140 I.Q was placed as the cut off marks for giftedness in this study. The table below shows the number of gifted students in the various Federal Government Colleges within the Northwest Zone of Nigeria.

Table 7: Number of gifted students of Federal Government Colleges in Northwest zone of Nigeria

S/N	Schools	State	Status	Gender	Pop	Gifted Students
1	F.G.G.C-Kazaure	Jigawa	Girls	F	965	26
2	F.G.C Kaduna	Kaduna	Co-education	M	2647	67
3	F.G.G.C Minjibir	Kano	Girls	F	1185	35
4	F.G.C Kano	Kano	Co-education	M	3076	78
5	F.G.C Daura	Katsina	Co-education	F	2025	72
6	F.G.G.C Gwandu	Kebbi	Girls	F	685	21
7	F.G.C Sokoto	Sokoto	Co-education	M	2560	64
8	F.G.C Anka	Zamfara	Co-education	M	480	12
	Total				13623	375

Sources: Federal Government Colleges in Northwest zone of Nigeria.

3.3 Data collection instruments

The major instruments for data collection were Teacher Nomination Checklist, Peer Nomination Checklist, Mental ability test (MAT) and Teachers' Questionnaire on curriculum programmes for gifted students.

i) Teacher Nomination Checklist (T.N.C).

The Teacher Nomination Checklist (T.N.C). has two sections, Section A was a provision for the respondents' name, qualification, school, state and years of teaching experience. While section B contained the nominated students' names, class, age and 25 characteristics of giftedness checklist. The checklist was adapted from Silverman (2012) characteristics of Giftedness which was used by the nominating teachers in ticking those areas of giftedness the students fitted in.

ii) Peer Nomination Checklist (P.N.C).

This instrument has two sections: A and B. Section A indicated the class, school and state of the peer nominating the students assumed to be gifted. While section B was also the same 25 characteristics of giftedness checklist adapted from Silverman (2012) characteristics of giftedness. The peers were required to tick those areas of giftedness the nominated student fitted in.

iii) Mental Ability Test (M.A.T)

This instrument has 6 subsections as follows: subsection A was a verbal subscale that comprised 4 questions. Subsection B was the performance subscale that comprised 2 questions. Subsection C was a test of test wiseness that comprises 4 questions. Subsection D was the multiple-choice items comprising 2 questions. Subsection E was computational (test questions) that contained 5 questions. While subsection F was the last and was a fill in-the-blank items that contained 8 questions. Making a total of 25 items adapted from Slavin (2006) Mental Ability Test.

iv) Teachers' Questionnaire on Curriculum Programmes for Gifted Students.

The Teachers' questionnaire on curriculum programmes for gifted student was the fourth data collection instrument used by the researcher. It has two sections: A and B. Section A was a provision for the respondent to state his /her school, state, gender, qualification and years of teaching experience. While section B was a set of 12 curriculums programmes for gifted students adopted from the National Association for Gifted Children (2011)

3.4 Data collection procedure

An introductory letter was collected from the Ph.D. programme coordinator, Department of Education Bayero University Kano. The letter enables the researcher to obtained permission to come

in contact with the principals, teachers and senior students of the selected Federal Government Colleges in Northwest zone of Nigeria. Who are expected to respond to the data collection instruments.

This lead to having a session with both the principals, teachers and subsequently the senior students of the Federal Government Colleges in Northwest Zone of Nigeria for familiarization with the data collection instruments. The session ended with employing research assistants from among the teaching staff who were trained to serve as research assistants.

Teacher nomination checklist (TNC), Peer nomination checklist (PNC), Mental Ability Test (MAT) and a Questionnaire were the four data collection instruments used in this study. The TNC was issued to the teachers and the PNC to the peers in the selected schools for nominating student possessing traits of giftedness. A week later, the researcher retrieved the T.N.C and P.N.C and administered the M.A.T instrument, to the nominated students. All the responses were collected after one hour duration allocated to the test.

The researcher marked the test and workout the intelligent quotient of the students. The Mental Age of students was divided by the student's Chronological Age and was multiplied by 100.Those students that scored 140 IQ to above were 375 and were considered as the gifted students in the selected Federal Government Colleges.

While 80 teachers in the 8 Federal Government Colleges were required to respond to the Teacher Questionnaire on Curriculum Programmes for gifted students. The exercise was carried out during the school working hours and was finally collected for data analysis. The Principals, the staff, the research assistants and the students were assured that the study will not temper with the integrity of their schools and their personalities.

3.5.1 Validation of instruments

The validation of the instruments was done by the supervisor and experts in measurement and evaluation. Out of the 4 research instruments, only the Mental Ability Test and the Questionnaire were validated on the ground that the two Checklists wire already validated instrument from their source.

The mental ability test was sought by correlating the gifted students scores. The M.A.T stand at 1000 while the questionnaire was given to six experts in the fields of special education and test and measurement for face and content validity. The content validity was therefore established along that line. The result of correlating the two instruments indicated strong positive correlation.

In addition, both the face and content validity of T.N.C, P.N.C, M.A.T and T.Q.C.P.G.S were given to experts in the fields of Test and Measurement and Special Education for validation. This

permits identifying gifted students, measuring their level of intelligence and determining the availability of curriculum programmes for gifted students in the selected schools.

The essence was to ensure that each item in the instruments qualified to identify, measure or quantify what is meant for. Olaofe (2010) asserted that construct validity specifies the degree to which the instrument is able to measure the variable purposed to be measured in relation to an already determined construct or theoretical framework.

Finally, the validations of the data collection instruments was presented at the Ph.D. seminar presentation of the Department of Special Education, Bayero University, Kano. Observations and recommendations were made after the presentation and the affected areas were corrected by the researcher.

3.5.2. Reliability of data collection instruments

The reliability of instruments for data collection were obtained during the pilot study. Psychometricians, generally regards Mental Ability Test as having high statistical reliability. A high reliability implies that, although students may have varying score when taking the same test on different occasions, and they may have varying scores when taking different I.Q test at the same age. The scores generally agree with one another and over time. As such, the Slavin (2009) mental ability test and Silverman (1993) characteristics of giftedness checklist have demonstrated adequate reliability and criterion related validity as reported by the authors. The instruments were only adapted for use in the present study.

Reliability for stability over time through test method was sought for the M.A.T.The more reliable instrument is the more confidence we can have in the information or scores obtained from the instrument as essentially the same information or scores that would be obtained if the instrument (s) were administered to the same test takers at another time or by a different person. According to Gay (2009), the stability i.e, test retest reliability provide evidence that scores obtained on a test at one time (test) are the same or close to the same when the test is re-administered over time (retest). The M.A.T yielded reliability index of .979 Cronbach's Alpha and .993 Cronbach's Alpha based on standardised items. While the questionnaire was found at .631 Cronbatch’s Alpha and .642 Crobatch’s Alpha Based on standardised item. The result was considered significant and appropriate for the study. Hence both M.A.T, T.N.C, P.N.C and the T.Q.C.P.G.S were found to be relevant, adequate and appropriate for this study.

3.6 Data Analysis Procedure

The responses collected for the research were analysed and presented in percentage (%). The term percentage or symbol is used in research to simplify means of conveying size or scale or value. Therefore, 15% for example, means 15 parts out of 100 and is the same as fraction 15/100.

Percentage was used in research on the following grounds: to enable data with different sample sizes or totals to be compared; to quantify the amount of change over time; and to express an increase or reduction relative to initial size

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter centred on the analysis of the data collected after administering the research instruments. Data was analysed and tabulated as follows:

4.2 Data Analysis

Data was analysed by making reference to the research questions in either case and the result were tabulated as follows:

4.2.1 Research question I: Is giftedness prevalent among the students of Federal Government Colleges in Northwest zone of Nigeria?

To answer this question, a survey of Federal Government Colleges in Northwest zone of Nigeria was conducted to ascertain the prevalence of gifted students in such schools. As such, the researcher used the Kauffman's (2001) prevalence formula, that is,

$$\frac{Gifted\ students}{School\ Aged\ population} \times 100$$

The table below shows the number of gifted students the selected Federal Government Colleges in Northwest Zone of Nigeria.

Table 8: Prevalence of giftedness among the students of Federal Government Colleges in Northwest zone of Nigeria

S/N	Schools	State	Status	Gender	Pop	Gifted	Prevalence
1	F.G.G.C-Kazaure	Jigawa	Girls	F	965	26	2.69%
2	F.G.C Kaduna	Kaduna	Co-education	M	2647	67	2.53%
3	F.G.G.C Minjibir	Kano	Girls	F	1185	35	2.95%
4	F.G.C Kano	Kano	Co-education	M	3076	78	2.53%
5	F.G.C Daura	Katsina	Co-education	F	2025	72	3.55%
6	F.G.G.C Gwandu	Kebbi	Girls	F	685	21	3.06%
7	F.G.C Sokoto	Sokoto	Co-education	M	2560	64	2.5%
8	F.G.C Anka	Zamfara	Co-education	M	480	12	2.5%
	Total				13623	375	2.75%

Sources: Federal Government Colleges in Northwest zone of Nigeria.

The result of using the Kauffman's prevalence formula indicated that **2.75%** which is equivalent 3% of the entire students' Population of the Federal Government Colleges in Northwest zone of Nigeria were gifted. As Gagne (2000) opined that, it has been assumed in the American Federal report and Legislation that 3% to 5% of the school aged population could be consider to have special gift or talent.

4.2.2 **Research Question II: What is the prevalence of giftedness among males and females students of Federal Government Colleges in Northwest zone of Nigeria?**

The study comprised of students and staff population of 13,703 ,out of which,13,623 were students only. The number of the boys was 8,763 and that of the girls was 4,860. In each of the two genders, certain percentage were identified as gifted students as could be seen in the table below.

Table 9: Prevalence of giftedness among male students of Federal Government Colleges in Northwest zone of Nigeria

S/N	Schools	State	Gender	Pop	Gifted
1	F.G.C Kaduna	Kaduna	M	2647	67
2	F.G.C Kano	Kano	M	3076	78
3	F.G.C Sokoto	Sokoto	M	2560	64
4	F.G.C Anka	Zamfara	M	480	12
	Total			8763	221

Source: Federal Government Colleges in Northwest zone of Nigeria

The table above indicated that, out of the 8763 population of male students in the Federal Government Colleges in Northwest zone of Nigeria, 221 students of the population were gifted.

Table 10: Prevalence of giftedness among female students of Federal Government Colleges in Northwest zone of Nigeria

S/N	Schools	State	Gender	Pop	Gifted
1	F.G.G.C Kazaure	Jigawa	F	965	26

2	F.G.G.C Minjibir	Kano	F	1185	35
3	F.G.G.C Daura	Katsina	F	2025	72
4	F.G.G.C Gwandu	Kebbi	F	685	21
	Total			4860	154

Source: Federal Government Girl Colleges in Northwest zone of Nigeria

The table above revealed that out of the 4860 female students surveyed in the Federal Government Girl Colleges in Northwest zone of Nigeria, 154 were gifted. To find out

the prevalence of giftedness among boys and girls, the researcher used a statistical approach as follows:

n=375

Therefore, to find the prevalence of gifted among the two genders, we use the above formula as follows:

The prevalence of gifted boys is 221 ÷ 375 x 100 = 58.93 equivalent to 59%

While the prevalence of gifted girls is 154 ÷ 375 × 100 = 41.06 equivalent to 41%

as could be seen in the table below:

Table 11: Summary of prevalence of gifted boys and girls in the selected Federal Government Colleges in the Northwest zone of Nigeria.

S/N	**Gender**	**Gifted (n=375)**	**Prevalence**
1	Males	221	59%
2	Females	154	41%
	Total	375	100%

Source: Federal Government Girl Colleges in Northwest zone of Nigeria

The table above shows that, out of the 375 gifted students, 59% of the gifted students were boys, while 41% of the gifted students were girls. This shows that the number of gifted boys is greater than that of the female students, thus 59% < 41%.

4.2.3 Research Question III: What are the curriculums programmes used for the gifted students in the Federal Government Colleges in Northwest zone of Nigeria?

In an effort to find out wether gifted curriculum programmes are use in Federal Government Colleges in Northwest zone of Nigeria or not, the researcher adapted a Teachers' Questionnaire on

Curriculum Programmes for Gifted Students and was given to 80 staff in the selected Federal Government Colleges in Northwest zone of Nigeria. The respondents were required to indicate whether they agree or disagree with the provision of the gifted curriculum programmes in their school. Some of these curriculum programmes includes; Enrichment, Acceleration, Individualized Educational Programmes (IEP), Affective Curriculum, Differentiated Curriculum, Heterogeneous grouping, Homogeneous grouping, Compacting programme, Self-pacing programme, colloquium programme, Pull-out programme and Cluster grouping programme. The responses to the Questionnaire indicated that such Curriculum Programmes are not provided in the Federal Government Colleges in Northwest zone of Nigeria (as they were made available in schools like **Bamaina Gifted Academy** in Jigawa State) The statistical analysis is as follows:

n=80

Therefore, respondent that agree are 0÷100 x 100 = 0%

While the respondents that disagree (D) are 80 ÷ 80 x 100 = 100% at it could be seen in the table below.

Table 12: Provision of Curriculum Programmes for the Gifted students in Federal Government Colleges in Northwest zone of Nigeria.

S/N	Reponses	Respondent (n=80)	Percentage %
1	Agree (A)	0	0%
2	Disagree (D)	80	100%
	Total	80	100%

Source: Federal Government Girl Colleges in Northwest zone of Nigeria

The table above show that none of the staff in the Federal Government College in the Northwest zone of Nigeria indicated that their schools offer any of the gifted curriculum programmes. Rather, only the National curriculum programme designed by Nigerian Educational Research and Development Council (NERDC) which was adopted by the Federal Ministry of Education of Nigeria in 1985 were utilized.

4.3 Summary of findings

The findings of the present study are summarized as follows:

1 The prevalence of giftedness among students of Federal Government Colleges in Northwest zone of Nigeria was 3% of the students' population.

2 The prevalence of giftedness among males students was 59% and that of females was 41%, within the identified gifted students in the Federal Government Colleges in Northwest zone of Nigeria.

3 The curriculum programme provided in the Federal Government Colleges in Northwest zone of Nigeria were inadequate to cater for the needs of the gifted students in the schools. As all of the 80 respondents indicated that none of the gifted curriculum programme is offered in their schools.

4.4 Discussion on findings

The findings of the study shows that there were gifted students in the Federal Government Colleges in Northwest zone of Nigeria. Gagne, (2000) stated that, the American Federal Reports and Legislation assumed that 3% to 5% of the school aged population could be considered to have special gift. Renzulli and Reis (2000) are of the view that, if highly talented students are included, the prevalence estimates of giftedness can range as high as 10% to 15% of the total school-aged population, Impliedly, both gifted and talented children in schools occupied a large segment of the school population requiring special educational provision (that is, gifted curriculum programmes) to enable them reach their potentials.

In the same vein, clack (2002) estimated the population of gifted and talented children in schools to comprise 5% of the school aged population. This indicates that, a large number of students in schools including Federal Government Colleges in Northwest zone of Nigeria will require gifted curriculum programmes that will enable the schools meet the needs of the gifted students. Unfortunately, their presences in Federal Government Colleges were not noticed. This neglect, turn the gifted to become threats to the society. Johnson (1993) asserted that, 'every gift contains a danger. Whatever gift we have, we are compelled to express it and if the expressions of that gift is blocked, distorted or merely allowed to languish then the gift turns against us and we suffer'. Similarly, Ozoji (2005) stated that, gifted and talented children can contribute significantly to nation building. They grow to become future problem solvers, inventing new ideas and technology. He added, no country can afford to toy with educating such citizens, to do so is to be ever dependent on other nations that have educated and trained their gifted and talented citizens.

It is evident that gifted students prevailed in the Federal Government Colleges within Northwest zone of Nigeria without being noticed. Such gifted students either get frustrated and drop

out of school or end up their Federal Government Colleges education without reaching their potentialities.

The finding on research question two, showed that the prevalence of giftedness among boys is higher than that of the girls in the Federal Government Colleges in Northwest zone of Nigeria. The differences in prevalence of giftedness among boys and girls in schools is another area of controversy. The National Association of Gifted Children (2011) stated that, the controversy has been the marginalization of gifted female students with studies leading to self-efficacy, acculturation and biological differences in aptitude between boys and girls. In the other hand, international studies of advancement differences in mathematics implicate enculturation within family structure as the influence of cultural stereotypes as being a crucial factor. Lubinski, Benbow and Morelock (2000) point out that females lag behind males in many measures of achievement and aptitude (e.g., professions and career achievement, standardized test scores and grades) and tend not to pursue courses of study or careers involving Science, Engineering and Mathematics. In short, they are underrepresented in many fields of advanced study, professions and careers that carry high status, power and pay. Factors that have contributed to the situation might include lower parental expectation for females, over emphasis on the glamorization of gender differences, school and societal stereotypes of gender roles and educational practices that are detrimental to achievement (e.g., less attention to high achieving girls, expectations of less independence of girls).

Like under representation of ethnic and cultural minorities, the problem involving female are closely tied to cultural, social, and political issues, and they do not have simple or easy solution. Nevertheless, the education of females with special gifts or talents might be improved by encouraging females to take risks by enrolling in challenging courses, to make career choices appropriate for their abilities and explore avenues that break stereotypical female roles.

Both the female and male gifted students stands a better chance to contribute to the economic and technological development of the nation. Its therefore the responsibility of the government, ministry of education, school authorities, parents and all other stakeholders to lend a helping hand in the nurturing of gifted students. This will in no small measure facilitate the production of qualitative man power such as Doctors, Engineers, Scientists, philosophers and alike. These personnel are the back bound of transforming the nation to a developed nation.

The findings of the study also indicated that the curriculum programmes use in the Federal Government Colleges in Northwest zone of Nigeria were inadequate to cater for the needs of the gifted students.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter contains the summary of the preceding chapters. In other words, the main contents of chapter one to four have been vividly summarised. The chapter also provides conclusion as well as some useful recommendation based on the findings.

5.1 Summary

Chapter one was the introduction and the background to this study. The background section discusses the definitions, characteristics, identification procedures and curriculum programmes for gifted education. Three objectives and three research questions were raised to guide the study. The significance, scope and delimitation of the study have also been stated.

In chapter two, the literature of related studies was reviewed and the conceptual framework of the study was discussed. Three empirical studies on giftedness were equally discussed. Renzulli's Models, Edwad Debon's thinking skills training, Benjamin Bloom taxonomy of education, and

curriculum programmes, designed by the National Association for gifted children, implementation of gifted education in some European and African countries were highlighted and their relevance to the study was established.

The third chapter presented the methodology for the research work. The population of the study comprised of all the students and some staff in the Federal Government Colleges in Northwest zone of Nigeria. The sample of the study was 455staff and gifted students. The research design employed was Survey research design. The chapters also contained the description of the four research instruments (that is Teacher Nomination Checklist, Peer nomination checklist, Mental Ability Test and a Questionnaire). Furthermore, the validation of research instruments, data collection procedure and the data analysis were also presented.

In the fourth chapter, the data collected were presented in tables and analysis in percentage. Finally, the fifth chapter presents the Summary, Conclusion, and Recommendations for further studies

5.2 Conclusion

The result of the present study revealed that 3% of the students in the Federal Government Colleges in Northwest zone of Nigeria were gifted. In addition, the prevalence of giftedness is higher among the male students than the females. The study also discovered that, the gifted students were not serve with the appropriate curriculum programmes that will enable them reach their potential and contribute towards the economic and technological development of the country. This is a weakness in nurturing the gifted students and a set back to the nation's development.

The study also indicated the appropriateness and suitability of employing Teacher Nomination Checklist, Peer Nomination Checklist, Mental Ability Test and Teachers' Questionnaire on Curriculum Programmes for gifted students. Finally, the study discovered that, the curriculum programmes utilised in the Federal Government Colleges in Northwest zone of Nigeria does not have a provision for the gifted students in such schools. The gifted students were left behind and not sufficiently challenged.

5.3 Recommendation

Based on the findings of this study, the following recommendations are offered.

1) The Federal Government and other stakeholders need to consider the huge population of the gifted students in the Federal Government Colleges in Northwest zone of Nigeria and ensure that gifted curriculum programmes are implemented. In other words, the schools need to compliment the

assertion of the Nigeria's National Policy on Education on gifted issue that warrant school to provide the gifted with challenging curriculum programmes to enable the gifted reach their potential. Which will in turn enable the gifted students contribute to the economic and technological development of the country.

2) There is the need for parents to allow their daughters to receive education up to university levels. This is necessary, by considering the percentage of the identified gifted girls as very close to that of the boys.

1) The Federal Ministry of Education needs to modify the curriculum programmes of Federal Government Colleges in Nigeria to take into cognisance the educational needs of the gifted students.

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SECTION C

Student----------Class----------Age----------

Instruction: Kindly tick the characteristics of giftedness the nominated students fitted in.

S/N	Characteristics of giftedness	✓
1	Reasons well (good thinker)	
2	Learns rapidly	
3	Has extensive vocabulary	
4	Has an excellent memory	
5	Has a long attention span*	
6	Sensitive (feeling hurt easily)	
7	Shows compassion	
8	Perfectionistic	
9	Intense	
10	Morally sensitive	
11	Has strong curiosity	
12	Perseverance when interested*	
13	Has high degree of energy	
14	Prefers older companions/ adult	

15	**Has a wide range of interests**	
16	**Has great sense of humor**	
17	**Early or avid reader**	
18	**Concerned with justice, fairness**	
19	**Judgment mature for age at times**	
20	**Is a keen observer**	
21	**Has a vivid imagination**	
22	**Is highly creative**	
23	**Tends to question authority**	
24	**Shows ability with numbers**	
25	**Good at Jigsaw puzzles**	