

Republic of Turkey
Firat University
Institute of Education
Department of Education Sciences
Division of Curriculum and Instruction



**APPLICATION OF MULTIPLE INTELLIGENCES
THEORY IN THE GHANAIAN CLASSROOM**

Master Thesis

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TO THE DIRECTORATE OF INSTITUTE OF EDUCATIONAL SCIENCE

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DECLARATION

I declare that this research project “Application of Multiple Intelligences Theory in the Ghanaian classroom” is my original work and has not been presented in any other university.

.....

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Date: 28/07/2020

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Musah Ibrahim MUNAH

ABSTRACT

Application of Multiple Intelligences Theory in the Ghanaian Classroom

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Education is a valuable component of human development throughout the world. Ghana is not an exception. Respective governments of Ghana have strived to improve eminence of tutelage in the nation and to make it accessible to all citizens of school going age. Many reforms have been formulated in the past to ensure that future leaders acquire the best form of education in order to survive in the ever expanding and dynamic world. These reforms generally looked at the period or duration for acquiring the needed knowledge as well as the content given to the students. Little work is done on the ability of the pupil/student to absorb and understand the needed content. The intellectual proficiency of the teacher to convey knowledge to the students built on the interest and strength of the student is usually overlooked. The level of intelligence of the students is measured based on the old and the traditional approach of the logic/mathematic and linguistic styles. Ghana inherited this approach from the British after colonization. This method has discouraged and made aspirations and skills of many students go into the drain. The inability of many students to achieve higher education in Ghana is because of this old way of assessing and determining who an intelligent student is. This work has proven that Ghana is still using the old and the outmoded approach of determining an intelligent pupil/student. The research has shown that the current teachers do not use the several intellect approach established by Gardner in preparation of lessons and delivery of instruction in the classroom. The questions asked in this work are; do the teachers know the theory of multiple intelligences? Do they know their students' multiple intelligences strength? Do the teachers

capitalize on the students' multiple intelligences strength in their teaching and lessons in the classroom? Do the teachers try to use other ways and styles of teaching apart from the traditional linguistic and logical/mathematical method of teaching? The observation and the answers to the questions above testify that Ghana is still using the traditional approach of logical/mathematical and linguistic approach in determining the intelligence of pupils/student. An observation conducted on the students using multiple intelligences survey, indicated that all the students used have traits of all the nine intelligences. Secondary sources of information such as article, journals and official webpages of institutions and bodies that had connections with the writing and preparation of this thesis were assessed.

Key Words: Ghana Education System, Multiple Intelligences Theory, Educational Reforms, Level of Intelligence.



ÖZET

Ganadaki Sınıflarda Çoklu Zeka Teorisinin Uygulanması

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Eğitim, dünyadaki insani gelişmenin değerli bir bileşenidir. Gana'nın ilgili hükümetleri, ülkedeki vesayetin yüksekliğini artırmak ve okul çağındaki tüm vatandaşlar için erişilebilir hale getirmek için çaba göstermişlerdir. Geçmişte, gelecekteki liderlerin sürekli genişleyen ve dinamik dünyada hayatta kalabilmek için en iyi eğitim biçimini almasını sağlamak için birçok reform yapılmıştır. Bu reformlarla genellikle öğrencilere verilen içeriğin yanı sıra gerekli bilgiyi edinme süresine veya dönemine bakılmıştır. Ancak öğrencinin gerekli içeriği anlama ve öğrenmesi üzerinde çok az durulmuştur. Öğretmenin öğrencinin ilgi ve zihinsel kapasitesi üzerine inşa edilen bilgi aktarma konusundaki entelektüel yeterliliği genellikle göz ardı edilir. Öğrencilerin zeka düzeyi, mantık / matematik ve dilsel üslupların eski ve geleneksel yaklaşımına dayanarak ölçülür. Gana, kolonizasyondan sonra bu yaklaşımı İngilizlerden miras almıştır. Bu durum birçok öğrencinin cesaretini kırmış, isteklerini ve becerilerini boşa çıkardı. Gana'da birçok öğrencinin yüksek öğrenime ulaşamaması, zeki bir öğrencinin kim olduğunu değerlendirmek ve belirlemedeki bu eski yoldan kaynaklanmaktadır. Bu çalışma, Gana'nın hala zeki bir öğrenci belirleme konusunda eski ve demode yaklaşımı kullandığını kanıtlamıştır. Araştırma, mevcut öğretmenlerin Gardner tarafından derslerin hazırlanmasında ve sınıftaki uygulamalarda çeşitli zeka yaklaşımlarını kullanmadığını göstermiştir. Bu çalışmada sorulan sorular; öğretmenler çoklu zeka teorisini biliyor mu? Öğrencilerinin çoklu zeka gücünü biliyorlar mı? Öğretmenler, sınıftaki öğretim ve derslerinde öğrencilerin çoklu zeka gücünden yararlanıyor mu? Öğretmenler, geleneksel dilsel ve mantıksal / matematiksel öğretim

yönteminin dışında başka öğretim yollarını ve stillerini kullanmayı deniyor mu? Yukarıdaki soruların gözlemi ve cevapları Gana'nın öğrencilerin zekasını belirlemede hala mantıksal/matematiksel ve dilsel yaklaşımın geleneksel yaklaşımını kullandığını ifade etmektedir. Çoklu zeka anketi kullanan öğrenciler üzerinde yapılan bir gözlem, kullanılan tüm öğrencilerin dokuz zekanın özelliklerine sahip olduğunu göstermiştir. Bu tezin yazımı ve hazırlanması ile bağlantısı olan makale ve dergiler ile kurum ve kuruluşların resmi web sayfaları gibi ikincil bilgi kaynakları değerlendirilmiştir.

Anahtar Kelimeler: Gana Eğitim Sistemi, Çoklu Zeka Kuramı, Eğitim Reformları, Zeka Düzeyi



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ABBREVIATIONS

ADD	: Attention Deficit Disorder
FCUBE	: Free Compulsory Universal Education
GES	: Ghana Education Service
GET Fund	: Ghana Education Trust Fund
IQ	: Intelligence Quotient
JHS	: Junior High School
MDG	: Millennium Development Goals
MIT	: Multiple Intelligence Theory
NAB	: National Accreditation Board
NABTEX	: National Board for Professional and Technical Examination
SHS	: Senior High School
TVET	: Technical, Vocational Education Training
WAEC	: West African Examination Council
WASSCE	: West African Senior Secondary Certificate Examination

DEDICATION

This work is dedicated to all unprivileged students who were considered as outcast just because they could not understand instructions and pass examinations that were conducted through the usage of the traditional linguistic and logical/mathematical method despite the fact that they did well in other subjects.



CHAPTER ONE

I. INTRODUCTION

European colonialists first arrived in Ghana in the fifteenth century. Portuguese were the first to arrive in Ghana, the then Gold Coast in the year 1471. They generally came to trade with the people of the Gold Coast. They built a castle at Elmina for their trading activities. They started educating some of the local people in the castles to facilitate their trade. The British took over from the Portuguese in 1867. The British then educated more of the local people; their main aims for educating the local people of Ghana were to use the educated people as intermediaries to their trading activities and for their missionary work. Buying and selling would need communication between the buyer and the seller; the colonialists therefore took it upon themselves to train few of the local people to serve as liaison persons between the locals and the Europeans. Majority of the colonialists were missionaries and wanted to spread their religion among the local people easily with the concept of the holy bible. The translation of the bible into the local languages would be required. This aim could only be materialized through immense knowledge of reading and writing. The missionaries therefore selected few people who fell within their criteria as intelligent people and taught them how to read and write. The criteria they used for selection was based on linguistically and mathematical intelligence (Ghana, History and Background). They used this method of selection throughout the educational systems to achieve their aims.

Ghana gained independence from the British in the year 1957; many activities the British did to favor their aims were halted. Others were redesigned to suit and favor the entire nation; other aspects of their rule including education were continued on how they were left. The fact is that linguistically and logical/mathematical intelligence was the main intelligence measure available during the colonization era; the British themselves were using it to determine their intelligent students in Britain.

1.1. Statement of the Problem

Ghanaian teachers plan lessons, instruct students and assess students' ability based on only linguistically and logical/mathematical intelligence at the expense of the other intelligences. The British, who introduced this system of measurement of intelligences to Ghana, is no more using only that to determine intelligences and

capabilities of their students, modern approaches have been employed by the British to determine the intelligences of pupils but Ghana is still using the same old system to determine how intelligent an individual is and what he or she could achieve in the future. This old system is depriving a lot of Ghanaian students from acquiring the necessary education needed for the total development of Ghanaian economy as well as the well-being of the individual students in Ghana.

1.2. The Tenacity of the Study

The main resolution of this quantitative study is to examine and determine whether Ghanaian teachers are acquainted with the Multiple Intelligences theory and whether they consider it in their lesson planning and delivery of lessons in the classroom. It is also a hope to unearth whether the old approach in which students are considered unintelligent based on their performance in mathematics and sciences is still relevant in the Ghanaian education system. Finally, to observe students to determine whether they possess traits of the intelligences and in what proportion each individual student possess.

1.3. The Focus of the Study

I focus on this topic because of the sorrowful situations in which pupils are made to repeat their classes because of their poor performance in either mathematics, English language or both. These students are usually tagged as unintelligent in spite of their good passes in other subjects. Sometimes their colleagues make mockery of them because they could not do well in mathematics or English language subjects. This attitude kills the spirit of the pupils and makes them loose interest in education completely. At worst, they drop out of school.

This occurs because most of the teachers do not know much about multiple intelligence theory; therefore, they cannot capitalize on the strength of the intelligences of their students in teachings and lessons in the classroom.

1.4. Assumptions of the Study

Ghana has gone through many reforms (Albert King Anum, Educational Reforms in Ghana, 1974-2007) in the field of education in order to achieve the best of reforms for her citizenry but no much of the reforms touched on the way intelligences

are measured and assessed. This is so because Ghanaians think that it is known already (linguistically and mathematical intelligence). No effort is being made to determine whether there exist other educational tools to knowing how intelligent an individual is or could be in the future. Ghana is also focused on the building of infrastructures such as schools and classrooms to make sure students get classrooms to study but sizes of the classrooms are usually overlooked. Classrooms in Ghana are usually big to contain more students, which makes it difficult for a teacher to reach all the students in a class.

In effect, majority of Ghanaian teachers do not know much about multiple intelligences let alone its application in lesson plan as well as instruction delivery in the classroom.

1.5. Educational Reforms of Ghana

The education system in Ghana has gone through several transformations and series of legislations. Policy documents and reports include the following:

1. Education Act, 1961
2. Dzobo Report, 1973
3. New Structure and Content of Education, 1974
4. Education Commission Report on Basic and Secondary Education, 1987/88
5. Education Reform Programme, 1987/88
6. University Renationalization Committee Report, 1988
7. Free Compulsory Universal Basic Education (FCUBE) Programme, 1996 (originating from the Constitution of 1992)
8. Ghana Education Trust Fund – (GET Fund Act 2000)

The System of Education in Ghana was mainly informal, and based on apprenticeship before the arrival of European settlers, who introduced a formal education system addressed to the elites. Pre-Independent Ghana was known as the Gold Coast. (Lord and Jack, 2011). The economy of Ghana before-colonial Gold Coast was primarily dependent on subsistence farming where farm products were shared within households and affiliates of each household dedicated to providing their household with other provisions such as cooking practicalities, accommodation, family, apparel and furniture. Trading with other households was therefore practiced in small scale (Hymer, Stephen and spring, 2018). This has made economic accomplishments in

pre-colonial Gold Coast a family institution/duties; family-owned and family-controlled. As such, there was no need for employment outside the household that would have otherwise called for disciplines, values and skills through a formal education system. Pre-colonial Gold Coast residents consequently practiced an informal education (apprenticeship) till its colonization and its economy became a mixture of subsistence and formal economy (Akurang, Kwabena-Parry, 2002).

After Independence in 1957, the first Prime Minister of Ghana, Dr. Kwame Nkrumah directed the country into speedy industrialization, which led to reduced prominence on agriculture and other maintenance economic activities (Steel and William, 1972). The industrialization was rigorous in the southern part of Ghana, consequently making most of the manufacturing and service activities concentrated in southern Ghana (Hart and Keith, 1973). The swift industrialization saw high influences of migration of countryside dwellers who hitherto energetically involved in agriculture, to cities in the southern part of Ghana in search for service and manufacturing industrial employments. Ghana's urban population amplified by 23% between 1960 and 2005 and the rate of urbanization between 2005 and 2010 was 3.6%, making Ghana's urban population (51.5%), 3% more than Ghana's rural population (48.5%). Between 1974 and 1982, agriculture plunged drastically; maize production dropped by 54%, rice by 80%, yam by 55% and cassava by 50% (Obeng-Odoom and Franklin, 2010).

The rapid shift of Ghana's economy from an informal economy to formal economy made education an imperative political objective. "Dr. Nkrumah pronounced education as the key to the future and proclaimed a high-level university system aimed at providing an "African point of view", backed by a free universal basic education (Kwame Akyeampong, 2014)". The Education Act introduced the principle of free and compulsory primary education and the Kwame Nkrumah University of Science and Technology were established in 1961 (Ghana Education Service (GES) 2004; Daniel, G. F. 1997/98). As a result, the enrollment almost doubled the next year 1999 (Abena D. Oduro 2000). This sudden expansion however, was hard to handle as the country had few trained teachers (UNESCO-IBE.1969) and the quality of the curriculum was said to be poor (Abena D. Oduro, 2000). "The fall of Nkrumah in 1966 was followed by stronger reproaches toward the expansion of education at the cost of eminence (Kwame Akyeampong, 2014). Despite the rapid increase of school infrastructures, enrollment

declined slowly until 1973 (Abena D. Oduro, 2000). The year 1974 saw efforts for reforms.” Based on Dzobo committee report, the reforms trailed two goals: reducing the length of pre-tertiary education (The structure primary school/Junior High School/Senior High school was created) (Nii Moi Thompson, 2014; Leslie Casely-Hayford, 2014) and transforming programs in order to encourage more practical subjects at school (Joe Adu-Agyem, 2012; Patrick Osei-Poku, 2012; Abena D. Oduro, 2000). Those reforms were, however, very partly implemented due to financial limits and political volatility (Joe Adu-Agyem, 2012; Patrick Osei-Poku, 2012; Abena D. Oduro, 2000). The economic condition of the country deteriorated at the beginning of the 1980s into an economic downturn, the country was dwindling at resolving the deficit of teachers, maintaining the infrastructures and convincing parents to bet on school instead of a paid work (Abena D. Oduro, 2000; John Macbeth, 2010). Gross Enrolment Ratio (GER) dropped sharper in response, falling below 70% in 1985.

The enormousness of the task as well as economic complications and political instabilities, slowed down endeavored reforms. The Education Act of 1987, followed by the Constitution of 1992, gave a new instinct to educational policies in the country. In 2011, the primary school net enrollment rate was 84%, described by UNICEF as "far ahead" of the Sub-Saharan average. In its 2013–14 report, the World Economic Forum ranked Ghana 46th out of 148 countries for education system quality. In 2010, Ghana's literacy rate was 71.5%, with a notable gap between men (78.3%) and women (65.3%). The Guardian newspaper disclosed in April 2015 that 90% of children in Ghana were enrolled in school, ahead of countries like Pakistan and Nigeria at 72% and 64% respectively (Rustin and Susanna, 2015).

Education indicators by Ghana, 2016 in Ghana imitate a gender gap and inequalities between rural and urban regions, as well as between southern and northern portions of the country. Those disparities drive public action against illiteracy and inequities in access to education. Eradicating illiteracy has been a continuous objective of Ghanaian education policies for the last 40 years; the difficulties around ensuring equitable access to education are similarly acknowledged by the authorities. Public exploit in both spheres has generated results adjudged significant but not adequate by national experts and international organizations. Increasing the place of vocational

education and training and of Information and Communications Technology (ICT) within the education system are other clear objectives of Ghanaian policies in education.

The responsibility for the administration and the coordination of public action regarding education lies on the Ministry of Education. Handling the concrete implementation of policies is done by its multiple agencies, in cooperation with the local authorities, regional and district offices. The State also accomplishes the training of teachers. Many private and public colleges organize applicants to pass the teacher certification examination to teach at the Basic level. Two universities offer special curricula principal to secondary education teacher certification. Education represented 23% of the state expenditure in 2010 (Education Finance Brief, Ghana. Ministry of Education, November 2012. Retrieved 24 July 2014); support to the sector by international donor has progressively decreased as the state has taken on the bulk of education funding.

The formulation of policy and its direction to the education sector in Ghana is the responsibility of the ministry. The Ghana Education Service (GES) as a frame is in charge for the execution of such policies through their regional and district offices. Head of various education institutions take instruction and report directly to the district and regional offices respectively. The Ghana Education Service contains the Curriculum Research and Development Division, a body that is accountable for emerging, executing and evaluating the national curriculum with respect to pre university education.

Basically education in Ghana is divided into three stages: basic education (kindergarten, primary school, and lower secondary school), secondary education (upper secondary school, technical and vocational education) and tertiary education (universities, polytechnics and colleges).

Education is obligatory between the ages of six and fifteen (basic education). The language of instruction is mainly English. The academic year usually runs from August to May inclusive (NUFFIC, 2013).

Ghana National Office of the West African Examinations Council is responsible for conducting of national examinations in junior and senior secondary education. The Council for Technical, Vocational Education, and Training (TVET) coordinates technical and vocational educations.

The general education structure in Ghana functions on (6-3-3-4) scheme:

Before the general structure, there is pre-school in addition to the basic education. The curriculum at this stage is free and compulsory (age 4-15) and it is defined as "the minimum period of schooling needed to guarantee that children acquire basic literacy, numeracy, and problem-solving abilities as well as skills for imagination and healthy living" ("Basic Education curriculum" 2014)". "This level is categorized into Kindergarten, Primary school and Junior High School (JHS), which ends on the Basic Education Certificate Examination (BECE) (West African Examinations Council) (corporate site: Ghana, 2014).

1.6. Why Multiple Intelligences Theory

The Multiple Intelligences Theory (MI) was established in 1983 by a Professor from Harvard University attached to the school of education. The concept suggests that each individual holds numerous intelligences that he or she uses to carry out specific tasks and actions. This theory explains how students use different approaches in performing tasks and learn in different ways.

1.7. A Brief History of Howard Gardner

On the date of July 11, 1943 Howard Gardner was born in Scranton, Pennsylvania. He was a co-administrator of Harvard's Project Zero in the year 1972 up to the year 2000; he was also the president of the Directing Board of Project Zero. "The mission was undertaking investigation on several themes as well as Multiple Intellelects. Purpose for such venture was comprehension and improving book learning, thoughtful behavior of students and creativeness in the arts, humanities and scientific fields at the individual and institutional levels (Project Zero, 2008)". This mission provided a fertile environment for Gardner and others to test the validity of new pedagogical ideas and consequently to shape attitudes regarding educational reforms. He also researched into the effects of the newfangled cardinal broadcasting on morals concentrating predominantly on the high school and institution education. He has written twenty (20) papers about multiple intellects. The importance of his books in education is the main reasons why his writings have been interpreted into twenty-seven (27) diverse vernaculars.

Gardner showed great interest in many arenas of education. He did much work on history, social sciences, psychology and neurology before venturing into cognition

and education. Josh McAuliffe, a Features Writer for the Times Tribune of Scranton, interviewed Gardner on 2 January 2007, Gardner said his attention was oriented towards history and social sciences in his early life, his teacher Erik Erikson, a famous psychologist at Harvard University influenced him to shift his interest from emotions and personality to thinking and problem solving and creativity.

Gardner met Norman Geschwind in 1970, a brilliant neurologist at Harvard University; he convinced him that the answers to questions about Art and Creativity would come from the study of the brain. Gardner exploited and delved into this knowledge to open new horizons in the field of education and thinking.

Howard Gardner's comprehensive and encyclopedic character qualified him to obtain several awards and honor, among them are the McArthur prize Fellowship in 1981, the 1990 Louisville University Grameyer Medal in education and the nominal degrees from 26 universities and colleges. Gardner, according to his autobiographical paper "(One Way to Make Social scientist), was born "cross-eyed, myopic, color-blind and unable to recognize faces" added much to the understanding of behavior and people (Chapman 2006: 2).

Howard Gardner is the first to introduce other intelligences apart from the traditionally known two intelligences, which are mathematical/logical and linguistic/verbal intelligences (the Theory of Multiple Intelligence). He is best known for his educational contributions, he brought a new frame to the minds of teachers, students, parents and the decision makers in education regarding the concept of educational processes. This was produced in his well-known manuscript (Frame of Mind: The Theory of Multiple Intelligences), which was first printed in 1983. This theory started a revolution in the arena of education and was embraced by many countries and educational institutions in different parts of the world; especially the developed countries.

Howard Gardner initiated the idea of multiple intelligences theory when he and his scholarly colleagues, Jerome Bruner, Nelson Goodman and Jean Piaget were investigating human potentials in a project they were assigned to undertake (Project Zero). "Gardner stated that "I was seeking to synthesize what I was learning in the morning from my study of brain damage with what I was learning in the afternoon from my study of cognitive development" (Gardner 2003: 3). This meant that the theory

relies on the expansion of intellectual abilities of standard and talented persons and the collapse of such abilities in persons who have agonized some procedure of brain damage. These convinced Gardner that intelligence could not be single as known.

Brualdi (1996: 1) asserts that Gardner bases his multiple intelligences theory on both biological and cultural grounds. On biological bases, he said, learning is an outcome of the modifications in the synaptic networks between cells. Primary elements of different types are found in particular parts of the brain where equivalent conversions have happened. Damage in a certain area of the brain will not affect in complete harm of all brain activities. The activities found at the damaged area will be lost. On the cultural bases Brualdi (1996) says certain intellects are more developed than others in certain societies because of the fact that those intelligences are valued more than others in those societies. The society itself plays the role in directing people's intelligences.

Multiple intelligence theory opposes several old and ineffective proposals such as the notion that intelligence is of single unified entity and learners are put into one of the two categories as either clever or stupid. Another one is that intelligence is fixed and cannot change, once a learner's performance is measured and known as either brilliant or stupid, it remains static and cannot increase or decrease till end of life of that particular individual. Another major notion is that one way of teaching fits all learners regardless of their individual abilities and differences (Lau and Jacobs 2002: 27). Willingham (2004: 19) indicated another challenge as he refers to the redefinition of the concept of intelligence presented by Gardner in which he broadens and extends the inclusion of and functionality of that concept. Intelligence was defined in term of "cognition and thoughts" and one can resolve complications and acclimatize successfully to one's setting "using thinking skills". The definition is now extended to add "better use of the body and thinking abilities" and the functionality of the intelligence is now extended to comprise "the crafting of valuable products, not just resolving problems".

Gardner thinks intelligence "is not content, but it is geared to specific content (Source-Full Intelligence, Dr. Coomi Vevaina, 34)" this was answer Gardner gave in an interview to a question inquiring about how he looks at intelligence (Gardner 2004). This means that intelligence evolves to deal with certain contents but nothing keeps it tied to any specific content. Intelligence is not a product by itself yet individuals to

produce many items use it. Individuals may use different intelligences to produce one kind or the same product. Gardner thinks that sometimes “we cannot know for sure which intelligence or intelligences are actually being summoned on a specific juncture (New Horizons in Theory and Practice, Howard E. Gardner – 2008). Intelligence cannot be seen but might be observed when individuals carry out tasks and behaviors. Gardner also claims that intelligence fundamentally is different from a style though some professors incline to use the two interchangeably; the two terms must not be conflicted, as they are different psychological constructs.

Malatesa and Quintana (2006) state, in the abstract of their paper “Multiple intelligences and Quotient Spaces”, that the theory of multiple intelligences is “one of the models which study and describe the cognitive abilities of an individual”. They also refer to the possibility of identifying the intelligence of a student and observing the development of these intelligences.

1.8. Principles of Multiple Intelligences

The multiple intelligences propose many interesting principles and it presents itself as an effective system of schooling. The main principles beside the educational implications it suggests are summarized from various sources as listed below:

1. Every learner is smart in one way or other and nobody is stupid.
2. There is no one intelligences that learners are estimated according to.
3. Learners have different potentials and employ different tools to solve problems.
4. All learners have the eight intelligences but they are highly intelligent at some while they are not at others.
5. Learners might employ more than one intelligence at a time in the process of problem solving.
6. Learners should know who they are and what they can do. The theory enables people to understand themselves and others.
7. Individuals have various talents that can be of benefit to the society.
8. Important subjects can be taught in many ways thereby activating more than one intelligence.
9. Teaching should be in depth rather than in brief.

10. Students learn better if they converse about the topic they like.

1.8.1. Multiple Intelligence Theory

Gardner's theory made its first appearance in his first book entitled *Frames of Mind*, in which he defined seven (7) intelligences.

The seven intelligences he defined Gardner, (Gardner, 2004) are:

1. Linguistic/Verbal (understanding through spoken words),
2. Interpersonal (appreciates working with group),
3. Intrapersonal (prefers working alone),
4. Logical/mathematical (uses numbers),
5. Kinesthetic (needs action and movements),
6. Musical (appreciates learning through music) and
7. Spatial (have visual understanding).

Gardner introduced Naturalist intelligence to the theory in the year 1999, as the eighth intelligence in his book (*Intelligence Reframed*, 2000). He introduced it as it met the standards he set up for an intellect.

1.8.2. The Principles Gardner Uses for his Intelligences

Howard Gardner uses the following criteria to determine the validity of the intelligence (Guignon 2004).

1. Does specific depiction of the skill exist within the mind?
2. Do inhabitants particularly worthy, especially decreased in intellect?
3. Is it possible for fruition antiquity for the intelligences found within animals or new beings?

A ninth intelligence Gardner is working on has not yet met all the criteria for it to be added as the ninth intelligence. This intelligence is called Existentialism.

Gardner said, "for now I can talk about 8.5 intellects" (Gardner 2006: 21). "Within every person, the 8 intellects exist in different proportion, they can easily alter in a span of time, every individual poses diverse configuration of the intellects comparable to patterns of human digit; every intellect situated at a specific portion in the brain, it functional on its own to achieve a target or come together with other intellect to execute a job. The intellects describe diverse species of people and the reason why humans are different with other classes denoted in the world; for an individual to comprehend

himself well, his power, comprehension of each of the intellects is an obligatory (Viadero 2003)".

1.9. The Scope of the Study

This is a Comparative analysis of Ghana and British educational systems with reference to the integration of Multiple Intelligences Theory into their curriculums. Direct observation of 100 students was undertaken to ascertain whether the students possess other intelligences apart from logical and verbal intelligences. This would make it easier to notice the difference in the learning and understanding abilities of the students; thereby making it easy to know the multiple intelligences strength of a particular student or pupil. The collection, assessment and analysis of the data collected were made through the usage of multiple intelligences survey designed by SYA Murray's Thinking and Learning CAGS Course Acts F10.

Additional 300 teachers from different stages of the educational ladder in Ghana were interviewed to know their knowledge of Gardner's philosophy of several intellects, its application in planning lessons, instructions delivery in the classroom, assessment of students and identification of the intelligences of students.

1.10. Limitations

Though this work seeks to compare the educational systems of Ghana and the Britain (using British curriculum as benchmark or reference point.); I could not readily access the British curriculum. Nevertheless, I obtained and used the curriculum of the British school in Milan- Italy. British schools in Italy, especially Milan follows strictly the curriculum of the British and Wales (The British School of Milan, Sir James Henderson) Therefore, the comparison may not have major short falls.

The large size of the classes made it really difficult to observe, therefor much time was used in each of the classes in order to observe all the students.

Children bellow the age of 12 do not bother being observed, they will continue doing whatever they were doing but those above the age of 12 sometimes feel shy and change their actions. In this regard the student of the junior and the senior high schools proved difficult when they were being observed. Nonetheless, the observation was done with success.

CHAPTER TWO

II. LITERATURE REVIEW

The figure bellow shows the summary of the Multiple Intelligences propounded by Howard Gardner.

Figure 1.

Summary of The Nine Multiple Intelligences



2.1. Definition of Intelligence

In the history of education (teaching and learning), countless methodologies to learning have been projected, each one considering the singularity of learning from a diverse viewpoint. One of the significant matters that have caught the consideration of many concepts is intelligence. Due to the significance of intelligence as a noteworthy

individual distinctive, which touch the procedure of teaching and learning, diverse theorists have given dissimilar definitions as well as a different character to this feature.

With regards to this opinion, the methodology of behaviorism flings out any and all thought of mindfulness, cognizance, believed, resolve, and so on, because the behaviorists trust that if it "can't be seen in a test tube" or "enumerated" in some way then it doesn't exist. This is strange because each of us discerns fully well that we are cognizant, have thoughts, act on will and are conscious. "The philosophies and performs of behaviorism are defiant-mind and anti-divine. This renunciation and clampdown of man's mind is the definite reason for much of what is erroneous in contemporary civilizations. When the mind is repudiated to exist so is everything that originates from it, including judgments, thought, purpose, optimism, ingenuity, resourcefulness, drive, intent, alertness, realization, obligation, devotion, and decency. They assign particular significance to "verbal behavior", because dialogue enables behaviorist theory to deal with such mentalist concepts as "thinking" which is reinterpreted as sub vocal verbalization (Watson, 1919; cited in Stern 1983: 293). They reject the "being" part of the "human being", observing only the "human" or animal part. The term by itself exhibits the conception that we are each a combination of two concepts: the physical, human, or animal part, and the unseen mind, being or spiritual part. The things such as creativity, reason, intelligence, understanding, communication, and responsibility come exclusively from the mind. Their procedures are used to change the behavior merely by synthetic and reinforcement. Behavior should be reformed by alluring to reason, intelligence, and one's observational capabilities, with the product of personally making decisions, setting goals, and using intention to control one's self-determined actions (i.e. behavior). This depends on open communication between thinking beings.

The other psychology of knowledge is Cognitivism. Cognitivists believe in the "single intelligence" based upon the unilinear construct of "general intelligence"; that intelligence is a true, heritable, biologically based mental faculty that can be studied by measuring a person's reaction to cognitive tasks. Cognitivists who believe in information processing view of intelligence imagine that language aptitude is due to intelligence in general and argue that students with high intelligence learn faster and better and their language skills are generally superior to those of less gifted children (Gardner, 2009).

Genetic researches have also shown the potential complexity of the human genetic landscape. According to “generalist genes hypothesis” proposed by Plomin et al. (2007, cited in Dornyei, 2009: 193), one of the utmost vital current discoveries from quantifiable genetic study has been the observation that the identical set of genetic factor is principally accountable for genetic inspiration transversely a comprehensive expanse of academic abilities. It was found that most genetic factor connected with a specific learning ability (e.g. reading) would also be allied with other learning aptitudes such as mathematics, and even between relatively distant domains such as English and mathematics. Moreover, some genes associated with learning abilities and disabilities in general appear to have a broader impact, encompassing other cognitive abilities such as memory and spatial ability. “It clear that although the heritability of general intelligence implies genetic links, not many of the specific genes responsible for this intelligence factor have been identified, and neither has it been established how heritable dispositions interact with the social structures that influence social outcomes (Brody, 2005: 121).

Another methodology to the training of language learning is Socio culturalism. It believes in Triarchic theory of intelligence proposed by Sternberg that provides a more comprehensive description of intellectual competence than traditional differential or cognitive theories (Sternberg, 1985). This theory reasons about three features of intelligence, Analytic, Creative, and Practical intelligences. It is not in contradiction of the legitimacy of “g” factor; as an alternative, the theory postulates that general intelligence is part of analytic intelligence, and only by bearing in mind all three aspects of intelligence that the full range of intellectual functioning can be fully understood. More newly, the diarchic concept has been modernized and retitled the Theory of Successful Intelligence (Sternberg, 2002). The three aspects of intelligence are referred to as processing skills.

Constructivism and developmental method to the schoolwork of intelligence also trust in the impression of intelligence on learning a language. According to Piaget’s theory of cognitive development, intelligence is the rudimentary and chief instrument of safeguarding equilibrium in the associations between the person and the atmosphere. This is realized through the activities of the emerging person in the world. “Piaget described four main periods or stages in the development towards completely

equilibrated thought and problem solving. In relations of Ausubel's meaningful learning ideal, high intelligence would no qualm infer a very well-organized process of stowing stuffs that are principally useful in constructing conceptual orders and thoroughly pruning those that are not useful? Nevertheless, in relating intelligence to learning, is it simply that an intelligent person will be able to learn more successfully because of greater general intelligence? (Piaget, 1972).

Intelligence has quite a lot of exceptional definitions. It is well-thought-out as the potential for finding or creating solutions for problems, which involves gathering new knowledge, the ability to create products and to provide valuable services and a bio psychological potential to process information that can be activated in a cultural setting to solve problems that are of value in culture. Most people preserve that there is but a single intelligence; classically, people ruminate of intelligence using the Stanford Binet IQ. The MI theory holds that each person possesses eight intelligences, and uses them to convey several kinds of errands (Great performances, 2002; Shearer, 2004; Gardner, 2006).

2.2. History of Intelligence

The word, intelligence, is connected with educational institute, examinations, and the possibility that an individual will thrive. According to Gardner, Binet was a renowned psychologist, who was tasked by the French Ministry of Education to generate an assessment to aid notice that would come upon difficulties with schooling. Binet questioned adolescence of diverse years to forecast who would prosper in schooling centered on which queries were responded appropriately or erroneously. The answers that alienated maximum plainly the changes between the two clusters became the first intellect quiz. Binet formed a gadget that has affected some part of millions of lives all over the world (Gardner, 1999).

Gardner informed that Binet had college faculty in England and Germany help plan the idea and use of the intellect quiz as a mechanism. Intellect analyses chance out to be recognized as IQ tests; that is, intellect quotient, and IQ pronounces the ratio between intellectual age and sequential age. Eventually, the intellect exam was hired in the United States to distinguish between standard and brilliant individuals and to describe who was appropriate to function in the army. During the 1920s, intellect tests

were used in instructive schemes on an unwavering foundation in the U.S. as well as most of Western Europe (Gardner, 1999).

Gardner recounted the reproach of intellect tests and indicated out the traditional prejudice related with them, in addition to the struggle to found a human's knowledgeable flat built on a small verbal or paper and pencil exam. Over the years, those who believe in psychometrics have strained to contest the cultural partiality by the elimination of recognizable items from the test, but there is no way to remove certain partialities that are contemporary within the test itself. For example, a person's background will have emotional impact on his or her ability to deal with being positioned in an unfamiliar location, the professional appearance of the test instructor, and having to deal with an unfamiliar printed test booklet. The prejudice presented becomes even stronger when a person knows that his or her academic ability is being measured along with the consideration of their racial or ethnic group. Intelligence tests were developed to measure talent in people regardless of their background (Gardner, 1999).

Through the periods of intelligence testing, "Gardner observed that one accomplishment of this test is that it is no longer managed throughout the schools. For the most part, intelligence testing is well-ordered and, classically, it is administered regarding a possible problem, such as a learning incapacity, or an assortment process, such as a program for gifted children. The restriction of testing came about because of legal issues based on decisions that could be made in the educational system based on IQ scores (Gardner, 1999).

There will be an ongoing issue about the notion of intelligence and how it should be measured (Gardner, 1999). Associates of the psychometric community linger to advance innovative procedures of standardized tests. The affiliates of the psychometric community are eyeing for the biological foundation of intelligence to determine if there is a genetic factor or group of genes that may have emotional impact intelligence, a particular neural structure for intelligence, or outstanding brain wave patterns that segregate the intelligent from the less intelligent. There are other variations in intelligence, as well, that will most likely happen with the change in present times and philosophy. Those who can operate a computer, work with numbers and symbols, and

use other varieties of procedures to develop plans, maneuvers, or policies may control how intelligence is apparent in the pending years.

Other findings on the meanings of intelligence have continued since the introduction of Intelligence Quotient (IQ) by Binet. Some researchers based their research on the brain and how it functions (Wesson, 2001). Explicitly, the brain is premeditated to determine what portions of the brain are used for thinking, learning, memory, and if the brain varies over a person's life span. In the arena of education, the brain is an imperative constituent to regulate what can be done in schools and the home to develop and advance learning. People do not process information in precisely the same mode because each person's brain cells have been exclusively arranged (Wesson, 2001). An instance of this is when students submit written coursework; each submitted assignment will be different from the other coursework. Each student administered the material in a different way and then produced a different example of what each student understood.

The brain has more than 1 trillion nerve cells while neurons compose almost 100 billion of them (Wesson, 2001). Neurons function as the underpinning for the cerebral cortex, and they function as the key correspondent of the brain. Neurons regulate the sensory systems essential to take in data, they impact the frontal lobes for policymaking systems for information dispensation, and neurons manage the motor schemes for decisions on the actions or movements one makes.

A neuron is made up of three main fragments, which are: (a) the main cell body, (b) the dendrites, and (c) the axon (Wesson, 2001). Dendrites look like antenna that extend from the neuron and accept communication signals from other neurons. Dendrites upsurge when they are used, and when they are placed in a motivating environment.

Nonetheless, they will decrease from abandonment or destitution as well as: (a) low stimulation, (b) poor nutrition, (c) high levels of fear, (d) or other negative resources.

Gardner proposed his theory of MI in which he branded seven different intelligences; each matches a primary area in the brain (Wesson, 2001). Different intelligences will be incapable to develop unsurprisingly unless the appropriate environmental sceneries are present to inspire a specific talent to mature and grow.

Increased heights of stimulation and steady learning opportunities, at the appropriate time, will lead to a growth in the concentration of the neural connections and more brain operational to allow for an undeveloped talent. In the perfect condition, a person's gifts, skills, talents, and endowments will grow through repeated encouragement as often as possible with the help of the right set of genes (Gardner, 1983).

This table as provided by Gardner is an incomplete framework to assist in the investigation between MI and the functions of various cerebral systems (Gardner, 1993, as cited in Shearer, 2004).

Table 1.

Cerebral Systems Associated with Each of the Multiple Intelligences

Intelligence	Cerebral Systems
Kinesthetic	Cerebral motor strip Thalamus Basal ganglia Cerebellum
Musical	Right anterior temporal Frontal lobes
Spatial	Right hemisphere, parietal Posterior Occipital lobe
Logical mathematical	Left parietal lobes and adjacent temporal and occipital association areas Left hemisphere for verbal naming Right hemisphere for spatial organization Frontal system for planning and goal setting
Linguistic	Left hemisphere, temporal and frontal lobes
Intra and Interpersonal	Frontal lobes as integrating station between internal and external states/people
Existential	Hypothesized as specific regions in the right temporal lobe
Note: Shearer (2004)	

2.3. The Myths of the Intelligences

The principal allegory is that, “since seven intelligences have been identified, there should be seven tests to assess each of the intelligences in order to determine valid scores for each area (Gardner, 1995)”. Gardner elucidated that the conception of intelligences was a consequence of attained knowledge about the human brain and cultures, not the creation of test scores.

Gardner sustained that intelligence should be known through direct experience as contrasting to paper and pencil tests. When testing is obligatory, it is significant to evaluate the individual in a contented atmosphere with which he or she is acquainted.

The second myth is that intelligence is the same as a domain or a discipline (Gardner, 1995). Gardner feels that intelligence is a new kind of construct, and it is not the same as a domain or a discipline. Gardner described intelligence as a biological and psychological capability. A person’s capacity to demonstrate intelligence is a consequence of the experiential, cultural, and motivational factors that affect an individual. However, a domain is set within a culture to identify a particular set of activities, often classified by a detailed symbol system and its operations. In a domain, often, individuals actively engage in a cultural activity on their own accord. For example, physics, chess, gardening, and rap music are all domains associated with the Western culture; reflections on multiple intelligences (Gardner, 2012).

The third myth is that “intelligence is equal to a learning style, cognitive style, or working style (Gardner, 1995)”. Gardner stated that the impression of a style signposts that an individual can relate a broad approach similarly to every content, whereas, an intelligence is an ability to process information that is geared to a particular focus in the world.

The fourth fairytale is that “MI theory is not experiential (Gardner, 1995)”. Gardner centered his theory exclusively on research evidence that can be studied on the groundwork of new experiential findings. Gardner cited his book; *Frames of Mind* (1983), in which he declared that hundreds of experiential lessons were revised in his book and the intelligences were recognized and elucidated based on experimental findings. Furthermore, Gardner situations that MI theory continues to be explored in both laboratory settings and field research.

The fifth myth is that “MI theory conflicts with: (a) general intelligence, (b) influences from heredity, or (c) environmental factors that influence intelligence (Gardner, 1995)”. Gardner replies that, “MI theory advances apprehensions with the realm and prospective of general intelligence but not the existence of general intelligence in itself. In addition, in MI theory, there is no place on the hereditary influences of particular intelligences. Gardner’s determination was to look beyond what the traditional general intelligence tests divulge about a person’s intelligent level.

The sixth myth is that “MI theory is so broad that it lowers the meaning of intelligence (Gardner, 1995)”. Gardner overruled this statement and maintained that the normal definition of intelligence is what compresses the societal opinion of intelligence by segregation of intelligence into a scholastic presentation. In addition, Gardner senses that the current definition of intelligence is for those who are talented in the form of linguistic and logical mathematical spheres.

2.4. Interpersonal Intelligence

Interpersonal intelligence permits an individual to comprehend and work with others. It is frequently seen in people who have operational verbal and nonverbal communication, the capability to note differences in the midst of many people, possess aptitude to amuse many standpoints. Learners frequently recognize ownership of intellect are those who courtesy occupied with collection of people, participate in numerous additional undertakings, they appreciate thoughts on most important matters like insufficiency of needs, conflicts and many others. Individual with Extremely great interpersonal abilities become front-runners amid nobles, dexterous with communication, they appear to comprehend the emotional state and intentions of people. An individual who interact with humans often enjoys a tremendous social intellect: instructors, counselors, salesclerks, legislators are example (Shepard, 2004).

Copious celebrated persons are famous in lieu of extreme echelons of explicit intellects. Late presidents Nelson Mandela of South Africa, Martin Luther King Junior and Adolf Hitler (Leader of Nazi in Germany) are recognized for their high Social intellects. Madam Anne Sullivan, a well-known instructor and guide for Keller Helen also possess a noteworthy Social Intellect. The histories of the above named

personalities indicate that social intellect is not dependent on mastery of linguistic (Nolen, 2003) and (Gardner, 2006).

2.5. Intrapersonal Intelligence

“Intrapersonal intelligence can be interpreted to be “awareness about a person’s inner characteristics of a person: admission of an individual’s sensitivity of existence, a person’s assortment to passions, capability for perceptions amid the sensations, ultimately for labeling them and to attract for them as a desire of appreciative controlling a person’s self-conduct.” (Gardner, 2006: 17). Individuals possessing extraordinary Intrapersonal intellect prefer to conduct a duty in solitude instead of being instinctive to perform a cluster duty, they are usually branded introvert. Perfect conscious of their emotional state, they inspire themselves. Intrapersonal intellect is mostly an individual self-contractor. They have the aptitude in understanding individual self to comprehend individual innermost mechanisms. Psychologists, divine front-runners and theorists are categorized of possessing great intrapersonal intellects. Many specialists utilize this intellect in aiding persons resolve their private difficulties. People like Mother Teresa, Oprah Winfrey, and many more have great Intrapersonal intellects for sympathetic and gratitude to the world. Nevertheless these two historic personalities do not draw on themselves, they are in the known their individual emotions, and they are enthusiastic on their own that is what makes them possess high Intrapersonal intellect (Nolen, 2003; Shepard, 2004; Shearer, 2004; York , 2008).

Learners that favor performing tasks in isolation, love aiding people, they trust humans must be dealt with justly, they seem to own a prevailing Intrapersonal intellect. it is often difficult for learners with intrapersonal intellect to speak in the class. This can be imaginings trainings, music, linguistic sections, could be used to assist students to speak in classroom (Gardner, 2006: 228).

2.6. Linguistic or Verbal Intelligence

Verbal or Dialectal intellect can be described as all activities that have connection with linguistic, dialogue, construing, or inscription. It’s believed to be greatest extensively common mortal capability. Composers of Poems, journal writers, and authors incline possession utmost stage of appreciative to this intellect. Steve Harvey, Michael Jackson are known with the possession of extraordinary Linguistic

intellect. Deaf who do not have speaking ability invent ways to communicate with each another. Learners who own great Linguistic intellect admire inscription, interpretation, storytelling or playing mind-bender mysteries. They are often pronounced storytellers and joke tellers. They have capability of telling their mind verbally and lyrically. Linguistic aids memorizing lines easy for these learners. Learners frequently recall themes well by writing records; they enjoy reading and writing, they adore being in front people communicating (Shepard, 2006; York, 2004; Fogarty, 2005; Gardner, 2008).

2.7. Spatial Intelligence

Spatial intelligence can be described to be capability for distinguishing pictorial realm perfectly over changing, adjusting to the reconstructing features physical realm of a person. According to certain scholars it is recognized basically to be Graphical intellect. Visually impaired persons possess the capability of cultivating visual intellect. Psychological descriptions, visual cognitive, explicit abilities and imaginings included in visual intellect. Visual intellect concerns basically about the bodily realm and is well thought-out as the capability to contemplate in spatially. Three-dimensional resolving of complications in triangulation and application of charts and necessitates a higher knowledge of three-dimensional intellect (Nolen, 2003; Gardner, 2006; Scherer, 2006).

Professions which utilize three-dimensional intellect vary extensively. Map topologists, Artistes, navigators, seamen, designers and fix ups utilize visual intellect. Puzzle users and shop attendant have higher visual intellect. Professions like pilots and excursion leaders might have extraordinary stage of visual intellect. Learners who have higher size of spatial intellect could be seen playing networks, enigmas games, sometimes just sketching or fantasizing. Three-dimensional learners love reorganizing their room, viewing melody tapes, and generating painting. Realistic planners like polygons benefit spatial intellect learners as evidence is prearranged (York, 2008).

2.8. Logic or Math Intelligence

The Mathematical/logical and Verbal intellects have been highlighted conventionally within educational institutions. Rational intellect is calculation, generating theories and effecting carefully worked-out processes. It is described to be operation on substances and resolving difficulties, it is prevailing at the arenas

pertaining scientific study just like mathematical field. Medical Doctors, chemical operator, geometrician likewise possess prominent rational intellects; detectives could also be labeled as such. Marie Curie and Einstein famously recognized with extreme height of Logic and Calculated cleverness. Learners known to have this brainpower, frequently work with shapes, solving mathematical hitches, scheme sports and mysteries or experimentations. Learners in this category usually much systematized, raise the value of programs as well as edifice, they request for backing rapidly at misunderstanding of issues. Persons who possess a great deal of Logic and Math intellect have concentration with melody (Shepard, 2004) and (Gardner, 2006).

2.9. Music/Melody Intelligence

Musical intelligence comprises of capability of comprehending playing field, tempo, understanding melody in addition to philosophy of music. Having the capability of handling melody, conglomerate fundamentals within it is quota of melodic aptitude. Majority of persons who have melodic aptitudes perceive and recollect music other people would not remember. Music artist, singers, musicians as well as instrumentalists possess extreme height of music brainpower. Learners who have progressive Music intellect frequently generate a verse to keep facts; they simply locate plans in items, they habitually get diverted with the hearing of sound system playing during their busy working period. Musicians like Whitney and The Beatles possess great music intellect (Shepard, 2004; Gardner, 2006; York, 2008).

The named persons and other individuals who have great melodic cleverness, have music to be part of their daily music run in their brain just as blood run throughout their bodies. Certain investigators, with Robert J. Sternberg, a mind university lecturer at Tufts University, uphold the view that Music Intellect must be excluded from Gardner's philosophy. "Sternberg names Gardner's model "a concept of capacities, but not of intellects" (O'Shea, 2001). Gardner gave this instance as a stand, "children with autistic problem who could not interconnect well with people in speech but have the ability to manipulate music device stunningly, emphasize the freedom of music intellect" (Gardner, 2006: 9).

2.10. Bodily or Kinesthetic Intelligence

Bodily/Kinesthetic intelligence defined as the capability for reason with body undertaking, by competence of influencing substances with some bodily aids. It includes intelligence to effectiveness and excellent skills via the brain and figure harmony that supersede sight to hand synchronization. Occupations here are physicians, sportspersons, performers, artistes, simulates technicians, programmers, and magicians. Maradona, Ronaldo, Steven Segal, Michael Jordan measured to possess extraordinary Kinesthetic intellect. Learners with extreme kinesthetic intellect hardly sit without motion, they study well by action instead viewing, and they ordinarily enjoy open-air competitions (Shepard, 2004; Stager, 2008).

2.11. Naturalist Intelligence

Naturalist intelligence can be showed with an individual that is intensely conscious to differentiate varied plants, creatures, highlands and bank of cloud formations within environmental position (Gardner, 2006: 19). He advocates a person whose entire customer principle is founded to depend on Naturalist intellect as it contains the measurements haggard to select a commodity instead of the other.

Persons who have cutting-edge intellect of Nature are grateful to the normal biosphere. Nature lovers are anxious concerning the current situation and impending realm and conserving earth for upcoming cohorts. They frequently display a proficiency at acknowledgment and cataloging floras and faunas. Charles Darwin, the originator of development philosophy, is a major instance of the philosophy Nature. Occupations like a cook need to have an extreme aptitude of Nature. Learners enjoying expenditure in outside, dear to cluster matters of similar kind, they also love conservational recycling possess extreme intellect of nature (Armstrong, 2000; Nolen, 2003; Shepard, 2004; Gardner, 2006).

2.12. Existential Intelligence

Argument concerning this intellect is still existence. Gardner has not officially counted it as an intellect it is unproven to be added, Existent intellect incorporates profound queries of existence of mortal, like the import of lifespan, reasons for passing away of humans, how humankind came to live on the Globe. Gardner seems uncertain

for counting this intellect as it is too head-to-head to an ethical marginal he would not wish to breach. He divulges, “I might be convinced of the existence of other intellects in addition to the existing ones and possibly adequate indication will ensue to believe Existential intellects as a discrete edge of attention” nine types (Gardner, 2004: 216).

An elementary understanding of every single item of intellects displays that it is possible to combine them for functioning or function separately. For instance, a danseur could perform excellently when he possess buoyant Music intellect to extricate the diverse beats and designs in the song, for Social intellect to grip in what way he can enthusiastically change his spectators done his actions as well Kinesthetic intellect to finish the actions efficaciously (Fogarty, 2005).

2.13. Domain of Multiple Intelligences

According to (McKenzie, 2002) multiple intelligences entail of three spheres: the analytical, introspective and interactive domains. These three domains serve as a director for understanding the fluid association of the intelligences and how the intelligences work with one another. Teachers can design lessons and components that efficiently address all of the intelligences in the classroom.

2.13.1. The Analytical Domain

According to (McKenzie, 2002), the analytic domain consists of the logical, musical and naturalist intelligences. These intelligences encourage analysis of knowledge that is presented to the apprentice. These three intelligences are considered analytic because they stimulate the processes of analyzing and incorporating data into existing scheme, even though they may have other components. The analytical intelligences are by their nature experiential processes.

2.13.2. The Interactive Domain

McKenzie (2002) indicates that the collaborating domain consists of the linguistic, interpersonal and kinesthetic intelligences. These are the intelligences that learners classically employ to express their inner feelings and explore their environment. These three intelligences are viewed as interactive because they typically request and encourage interaction to realize understanding. Even if a student completes a task individually, she/he must consider others through the way she/he writes, creates,

constructs and makes conclusion. The interactive intelligences are by their nature social processes.

2.13.3. *The Introspective Domain*

The introspective domain consists of existential, intrapersonal, and visual intelligences. These intelligences have a definitely sentimental component to them. These intelligences are categorized as introspective because they require a looking inward by the learner, a sensitive connection to their own capabilities and beliefs in order to make intellect of new learning. The introspective intelligences are by their nature affective processes (McKenzie, 2002). These domain classification indicates that intelligence consists of different constructs supporting the idea of Gardner and his colleagues that there are different types of intelligences.

A fourth domain was added by Teele, which is social climate (Teale, 1996). The ideal atmosphere of the school should consist of a constructive and reassuring environment that is focused on the strong suit of all students and teachers throughout the school. Additionally, students should be treated with impartiality, steadiness, and sense of purpose, and accurate prospects that will encourage high achievement. A team of teachers, students, parents, the principal, the school board, the district office, businesses, and the community should be designed to form a community of learners. The relationships created among all members of the school should endorse teamwork, collegiality, cooperation, mutual trust, respect, a sense of belonging, and a team spirit.

2.14. MI Theory Leads to Three Conclusions

The theory of Multiple Intelligence suggests that;

1. Every individual holds all the collection of intellects: that is the reason humans, reasonably talking.
2. All people have distinctively different sets of the intellects in a unique proportion. It is not possible for some two people to have the same counts of the intellects in the same way
3. Possessing robust intellect does not guarantee that the owner will use it intelligently (Gardner, 2006: 23).

2.15. Insinuation of Multiple Intelligences in Classroom

Originally it was not the intention of Gardner to apply the philosophy to education because it did not come with a manual to be used in the classroom (Viadero, 2003). Educators happen to be searching for answers to the problem of education. Variations in the understanding and learning abilities of the student were headache to. Educators realized that the philosophy of multiple intellect seemed to solving much of the issues they therefore adopted it (Guignon, 2004).

The Multiple Intellect philosophy suggests pupils learn materials in completely different manner that helps support in understanding a weak and strong side of each student. This knowledge will help teacher to strategize his instruction to suit the students.

Learners who study differently are often branded incapacitated, attention shortage illness or simply poor students, meanwhile proper attention they needed was not provided in the class (Armstrong, 2000). Gardner's (2006: 84) explains why this is true. My philosophy can strengthen the impression that persons own several talents useful to the community than solitary process not inappropriate for influential.

The Manifold Intellects class aid learners understand how crafty they are as long as the teachers use diverse channels of teaching. More time in preparation and training would be essential when consuming Gardner's philosophy. The Multiple Intellect setting is more attractive and supportive to all manner of learners than the conventional class setting. It necessitates for some essential "administrative provision, learner is prime in preparation, tolerance and perseverance to be occupied though initial confrontation to MI actions by learners and classmates" (Shearer, 2004: 10; Shepard, 2004: 210).

2.16. How to Determine Students' Intelligence

How would instructor ascertain the intellect(s) his pupil's strength are so to generate suitable MI setting for them?

Gardner grants 2 proposals:

1. "Go with students on visits like an amusement center such as exhibition hall or to any place that offers a better involvement such as playground where several sports are and observe prudently.

2. Provide a small survey to the students around their strong point and their guardians and if possible to their teachers from the previous year” (Gardner, 2006: 84).

2.17. Implementation of Multiple Intelligences Theory in the Classroom

From research, “it is unmanageable, in addition to unreasonable, for an instructor to administrate all periods using all instructional approaches available in a class” (Fogarty, 2005: 13). What should be done in this instance?

“Explicit intentions should be positioned clearly articulated to each learner. Several approaches are available With MI philosophy to meet the needs of each learner and to get good results” (Hopper, 2000: 27).

Linda Campbell, writer of Instruction and Education using Multiple Intellects designates methods to applying Multiple Intellect in a class setting.

1. The design lessons. Certain institutes emphasis on content plan; this might encompass group education (tutors concentrating on what their individual intellect assets are),
2. Subject oriented elements. High schools regularly embrace interdisciplinary components on sure areas.
3. Learner schemes. Learners can study to “start and control multifaceted work” during project development
4. Valuations. Valuations are formulated to give pupils to indicate what they have studied. Occasionally letting the pupil form as they desire to bring out formulated evaluation, at the doing what the instructor set up to do in terms of standards for excellence.
5. “Traineeships. Apprenticeship permits the learner to “advance experience of a appreciated talent progressively, by determination and correction in a period of time.” Gardner senses that apprenticeship “...must consist 30% of learners educational involvement” (Guignon, 2004)”.

The thought above learners might show their talent through the understanding of the subject matter by adopting any of the several approaches; therefore time must be allocated to this all important procedure for the benefit of the learner instead of giving the time to meet community members (Gardner, 2004: 215).

Some researchers have even lined practically the various approaches of Gardner's multiple intelligence to the specific cultural themes present in African American students' home environments (Ford, 2004). For illustration, Table 1, presents a comparison of Howard Gardner's multiple intelligences of many African American youth (see Boykin 1986 for a discussion of the cultural themes). As Kagan (1998) and several others purport, academic motivation is enhanced when teachers begin to build on students' intellectual and cultural strength during academic and personal self-esteem and heightened academic success.

2.18. Culturally Responsive Teaching Strategy

Gardner MI and Boykin themes compared:

This is a comparison concerning Gardner's Theory of Multiple Intelligences and Bokin's specific cultural themes extant in African Americans Environment.

Table 2.*Comparison of Gardner and Boykin's Theories*

Gardner	Boykin	
Multiple Intelligences	Afro-Centric Expression	Teaching Strategies and Products
Bodily Kinesthetic	Movement Harmony Verve Expressive Individualism	Creative movement (mime, drama, dance, tableau techniques—body used to communicate) • Hands-on thinking; manipulative (i.e. sculpting) • Role plays, simulations theatre • Field trips • Physical activity • Sports and games • Learning centers • Singing, humming, whistling, chanting
Musical	Movement Harmony Verve Expressive individualism	• Curriculum songs (creating melodies, songs, rap, cheers, jingles, etc.) • Background music • Playing instruments • Poetry/poems • Drama • Environmental issues
Naturalist	Social time perspective Harmony	• Social issues • Outdoor activities • Flexible assignments • Graphic-rich environment (visuals and graphic organizers, pictures, posters, charts, graphs, diagrams)
Visual/Spatial	Social time perspective Spirituality	• Mind mapping (webbing) • Puzzles and games (i.e. Chess) • Patterns • Painting collages • Visual arts
Logical / Mathematical	Oral tradition	• Lectures • Socratic questioning • Scientific investigations & experiments • Logical-sequential assignments (reports, experiments, research) • Problem solving; problem-based lessons • Logical puzzles and games • Competitions • Analogies • Independent study projects

Verbal / Linguistic	Oral tradition Verve Expressive individualism	• Lectures • Seminars • Discussions/Dialogues • Oral presentations & speeches; speakers • Debates • Word games (i.e. idioms, jokes, puns, riddles, homonyms, anagrams, mnemonics) • Poetry • Storytelling • Drama • Reading (choral, peer, individual) • Journal writing
Intrapersonal	Spirituality Harmony	Visualizations • Independent study • Self-paced, independent instructional assignments • Choices and options; interest-based assignments • Reflection time/opportunity (i.e. journals, poetry)
Interpersonal	Communalism Affective	Social cooperative learning (i.e. clubs) • Service and community involvement • Conflict mediation • Opportunity to help others (i.e. tutoring, mentoring) • Simulations

2.19. Critics of the MI Theory

The Theory of Multiple Intelligences did not sail through the system without opposition. Many people wrote and spoke against it. Their argument is that multiple intelligences theory does not give educationalists the encouragement to impart basic information “core knowledge” that is, the common collection of important and basic knowledge needed by every individual. Some of the critics are E.D.Hirsch Jr., LINDA S. Gottfredson, Richard Lynn, Hans Eysenck and Charles Murray. These people are advocates of psychometric evaluation.

Linda Murray indicates that most of the conventional psychologists have determined that “g”, or general intelligence exists. Her disagreement is that all humans vary in intelligence and the differences can be carefully measured.

2.19.1. The Opponents of MIT Raised These Arguments

They maintain that Gardner’s MI theory is not groundbreaking; which means that the theory already exist, they indicated that what he describes as “intelligences” are principal aptitudes that educationalists and reasoning psychologists acknowledge.

Others have the view that the theory is not clearly demarcated because they marvel if the intelligences shall keep on increasing. They trust that philosophies such as musical abilities, bodily-kinesthetic are individual talents rather than intelligence. They further noted that the theory lack accuracy of a physical science. Gardner defended the theory by his response that it would have been difficult to pledge a definitive number of intelligences.

The detractors also said that the theory is culturally embedded which means that culture has an imperative part to play in defining the powers and weakness of an individual's intelligence. The critics therefore claim that intelligence is exposed when an individual is challenged with by unacquainted mission in an unaware setting.

They also said that the theory overthrows National Principles as it will make it problematic to relate and categorize students' skills and abilities in a particular classroom.

They finally state that the theory is not practical and impossible to apply when faced with an overcrowded classroom and in a situation where resources are scarce.

Comparison between Customary assessment of "intelligence" and Multiple "Intelligences" Theory

Table 3.*Traditional Opinion of “Intelligences” and Multiple Intelligences*

Customary sight of Intelligences	Multiple Intelligences Theory
Intelligence are measurable using short-answer quizzes such as Stanford-Binet Intelligence Quotient (IQ) Wechsler Intelligence Scale for Children (WISCIV) Woodcock Johnson test of Cognitive Ability Scholastic Aptitude Test	A discrete multiple intelligence assessment can nurture book learning and problem solving styles. Short answer trials are not used because they do not scale corrective mastery or deep comprehension. They merely measure rote memorization abilities and one’s ability to do well on short answer tests. Process of work is valued than the final answer.
People are born with some fixed quantity of intelligences.	People possess all of the intelligences but each individual has an exclusive amalgamation of the intelligences
Intelligence limit does not vary in the life of human beings.	Anybody can improve on any of the intelligences nevertheless some people may advance better in one intelligent area than in others
Intelligence entails of skill in reason and verbal	There are numerous kinds of intelligences which imitate diverse styles of interrelating with the creation
In customary exercise, tutors teach similar material to every student.	MI theory education denotes teacher imparts and measure differently according to individual academic gifts and dimness
In the traditional settings Teachers teach subjects and topics.	Here, tutors assembly education activities around a subject or query and link it to the topics. Educators cultivate tactics that permit for students to prove several ways of thoughtful and rate their exclusivity.

2.20. The Curriculum of Ghanaian

Basic education in Ghana is free and mandatory between the ages of six and fifteen. It begins with two years of kindergarten, which is usually not counted as part of the compulsory aspect of the basic education, subsequently six years of primary school.

Basic education finishes after three years of junior secondary school, upon completion of the Basic Education Certificate Examination. This examination includes both English and math. After basic education, students can either study three years of secondary school or vocational school, where they study a core curriculum, which still includes math and English, and some elective courses. For those wishing to follow the vocational track, they can either take vocational electives at secondary school or go straight to a vocational school.

English language is the official language used for instruction in the Ghanaian schools and all textbooks are written in English except local a dialect that must be learnt in a particular locality where a particular school is located. Students with little or no English language find it difficult to accomplish much in the educational field. It is a big barrier for most students. A student will not progress to the next level on the educational ladder if he/she fails in English and mathematics.

Major focus is on developing reading comprehension, grammar and vocabulary as well as teaching mathematics. No matter how good a student is in other subject, the moment he/she fails in these two subjects he/she is considered as a poor student and that might be the end of his/her education.

2.20.1. The Launches New Curriculum by Ghana Education Service (GES)

As a measure of the continuous reforms of education in Ghana to be in line with international practices, the Ghana Education Service (GES) launched a fresh curriculum for primary schools in the country for 2019/2020 academic calendar. The novel curriculum is to help address deficiencies in the educational system and prepare Ghanaian students to compete favorably with their global counterparts.

The General Director of GES, Prof. Kwasi Opoku-Amankwa, speaking at the launch says the innovative curriculum would take effect from the 2019/2020 academic year. According to him, the GES has identified some deficiencies in the current curriculum.

Giving features of the new curriculum, he said, at the Kindergarten (KG) level, the number of subjects areas would be abridged from seven to four. The four areas, he said, were integrated themes including literacy, numeracy, our world, our people and creative arts.

He noted that at the minor and higher primary, the number of subjects would remain the same.

The Director-General added, “However, there will be less concepts and extra in-depth conduct of impression in each theme.” Furthermore, he disclosed, “there would be better importance on literacy and numeracy.” Again, as part of features of the new curriculum, the Director-General announced, “there would be national valuations at P2, P4, and P6 to certify that children’s performance is being traced.”

He noted, “Religious and Moral Education (RME) will be a separate subject. Physical Education (PE) will also be a standalone subject and will be taught practically instead of the theoretical way it is taught. French language will be introduced at Upper Primary for greater achievement.”

2.20.2. Implementation of the Curriculum Nationwide

According to the Director General, GES would ensure the training of a principal of 150 master trainers throughout the nation on the innovative curriculum.

The principal trainers, he said, “will, in sequence, train 3,900 district and regional trainers.” He announced, “About 152,000 KG and primary school teachers will be trained across the country by the master, regional and district trainers (Daily Guide 11-Apr-2019)”.

Prof. Opoku-Amankwa observed, “There will be continuous professional development through the setting up of teaching and learning communities for teachers to enable them to share ideas and experiences (Daily Guide 11-Apr-2019)”.

“Kindergarten lasts two years (ages 4–6). The Programme is divided into six core areas: Language and Literacy (Language Development), Creative Activities (Drawing and Writing), Mathematics (Number Work), Environmental Studies, Movement and Drama (Music and Dance), and Physical Development (Physical Education, Basic Education curriculum, 2014)”.

2.20.3. Ghana Kindergarten Mathematics

Table below features the structure of kindergarten mathematics lessons in Ghanaian schools.

Table 4.*Teaching mathematics at the Pre-School in Ghana*

Number	Topic	Title
1	Self-Assessment	Self-Assessment – Kindergarten
2.	Using and applying number	The numbers 1 to 5
3.	Using and applying number	The numbers 6 to 9
4.	The number system	Ordinal numbers 1 to 9
5.	Using and applying number	Zero and counting numbers 1 to 9
6.	Using and applying number	The number 10
7.	Using and applying number	Numbers 11 to 20
8.	Using and applying number	Using place value to order numbers up to 20
9.	Reasoning	Simple addition up to the number 10
10.	Calculations	Subtraction up to the number 10
11.	Time, days of week	Days of the week
12.	Time, duration	Duration
13.	Exam	Exam – Kindergarten

2.20.4. Ghana Kindergarten Literacy

This is the structure of teaching of English Language at the school in the Ghanaian schools.

Table 5.*Teaching English Language at The Pre-School in Ghana*

Number	Topic	Title
1.	It is time to learn your A B C!	It is time to learn your A B C!
2.	It's time to learn your A B C!	1 2 3 – It's A B C!
3	It's time to learn your A B C!	How do you spell that?
4.	It's time to learn your A B C!	It's time!
5.	It's time to learn your A B C!	What time is it?
6.	It's time to learn your A B C!	'A' sounds like ...!
7.	Hello! How are you?	Hello! I'm Lulu
8.	Hello! How are you?	My name is Jack!
9.	Eight Purple Stars!	Ten Little Pandas
10.	Eight Purple Stars!	What color is it?
11.	Fun at School	Close the door, please!
12.	Close the door, please!	This is my father and mother
13.	What's this?	It's my green eraser!
14.	What's this?	What's in the box?
15.	A New Boy at School	A Letter from Peter
16.	A New Boy at School	Where's my dog?
17.	My Family	My Family Tree
18.	About People	That's his cow!
19.	About People	These are my feet
20.	Animal Mania!	What animal is that?
21.	Animal Mania!	A Very Tall Giraffe
22.	We like to play games.	Holidays!
23.	We like to play games	What's your favorite?
24.	Do you like hamburgers?	At a Café
25.	Do you like hamburgers?	This is Bobby

The style presented above (Ghana Kindergarten Mathematics and Ghana Kindergarten Literacy) is the approach of teaching of math and English up to the senior high school; yet students fail in the two subjects than any other subject (Ghana web,

Professor Sitsofe Enyonam Anku). This raises an alarm that there is a defect in the approach and the style of teaching in Ghana.

2.20.5. *Primary School - Six (6) Years*

In Ghana, it is obligatory for children to join school from the age of six (6). Primary education takes six (6) years and entails of a three (3)-year lower primary; teachers are obliged to use local languages to teach alongside English language and a three (3)-year upper primary. Throughout primary education, the curriculum puts prominence on reading and writing, arithmetic and the development of problem-solving aptitudes.

“Getting children into the classroom is not enough – they must also learn while they are there (the guardian, 23/04/2012)”. According to the 2013 Early Grade Reading Assessment, majority of pupils in Ghana are poorly performing in reading and numeracy. The report indicates that only the top 2% of the pupils were able to read with fluency and comprehension. To amalgamate the gains made in quest of Millennium Development Goals (MDG 2), Ghana needs to deliver both universal accesses to schooling and excellence in education.

2.20.6. *The Junior High School - Three (3) Years*

The Junior High School education in Ghana takes three years to be completed. Children are then usually fifteen (15) years old. In junior high schools, the subjects taught are English, mathematics, social studies and integrated science in addition to basic design and technology, religious and moral education and French. Students spend forty-five (45) weeks in school and are given a Basic Education Certificate Education (BECE) upon completion.

2.20.7. *The Senior High School – Three (3) Years*

The senior high education in Ghana takes three (3) years to be completed; subjects taught are English language, Mathematics, Social Studies and Integrated Science. In addition to these subjects, students select from a sum of electives. These electives are in the specialties of Agriculture, Business, Technology and Trade, as well as general education (Arts or Sciences). Senior high students spend 40 weeks for the

education and sit for examinations for the certificate of West African Senior Secondary School Certificate (WASSCE).

The first of a new series of post-2015 reports, says 53 per cent of students in Ghana are able to complete Junior High School (JHS) education, while only 39 per cent are able to complete Senior High School (SHS) education (ABU MUBARIK, Ghana News Agency 11/20/2016).

The main teacher training institutions in Ghana are the Colleges of Education. The colleges provide a three-year curriculum that leads to acquiring Diploma in Basic Education (DBE). The depiction of the education is “uniform” and with a “national focus” even if COE are present in every Ghanaian region. The final examinations granting the DBE are conducted by the Institute of Education at the University of Cape Coast. The holders of the DBE are permitted to teach at every stage of basic education (kindergarten, primary school, junior secondary school), (Kwame Bediako Asare and Seth Kofi Nti, 2014).

Apart from the colleges of education, two universities (Cape Coast and Winneba) also train teachers. A specific four-year bachelor's degree allows teaching in any pre-tertiary education (most graduates choosing secondary education), (Research overview: Teacher preparation and continuing professional development in Africa (TPA)". University of Sussex, 2008). “A precise master's degree is required for teaching in CoE. Universities also offer DBE to graduates, a two-curriculum granting them the right to teach in secondary education” (Seth Kofi Nti and Kwame Bediako Asare, 2014).

Distance education for senior high graduates is also a possible means to gaining basic teacher qualification; this model is called Untrained Teachers’ Diploma in Basic Education (UTDBE). The Programme takes for four years and leads to UTDBE certificate. This intervention was introduced to upsurge the number of teachers at the basic education in the rural areas. Teachers in service can also profit of continuing education (in-service training, cluster) (Seth Kofi Nti and Kwame Bediako Asare, 2014).

2.20.8. Higher Education in Ghana

Clear binary structure is the character of Ghana's higher education system, universities on one hand and professionally focused polytechnics (now technical universities) on the other. Universities are entitled to offer their own degrees while Polytechnics primarily provide higher professional education programs that organize student candidates for the examinations that are prepared by standardly known professional establishments, which include National Board for Professional and Technical Examination (NABTEX). However, all higher education institutes and their programs are credited by the National Accreditation Board.

The brief structure of education and the reforms of Ghana show consistent use of logical/linguistically and mathematical intelligence as the yardstick for measuring intelligence in Ghana. From the basic education up to the tertiary education, students would have to have good passes in English language, Mathematics and Science before they could proceed to the next level on the educational ladder. The so-called technical schools also depend on the same criteria. Ghana recently created vocational schools to absorb those who could not have good passes in English Language, Mathematics and Science to learn some vocational works such as sawing, hair dressing among others.

There is the need to incorporate multiple intelligences theory into the measurement of intelligence in Ghana; appropriate to harness more of the intelligences in students and develop them towards achieving their goals in future.

2.21. British Education System

The British Educational System put more emphasis on developing the brain of the individual from the early stage in life (The British School of Milan, Sir James Henderson). Every child is treated as an individual with different and unique abilities. In this case, the intelligences of the children are explored in order to identify where their dominant intelligences are. Lesson plan and teaching in the classroom are designed based on the dominant intelligences in each class.

2.21.1. Early Years

The British educators insist that each child is unique at the foundation stage, therefore they provide a challenging, stimulating and supportive environment in which

each child can achieve his or her full potentials. They provide a curriculum that enables each child become independent and active learner (The British School of Milan, Sir James Henderson). Nursery is the foundation stage; their curriculum is therefore play-based. They are encouraged to develop positive relationships with adults and peers alike. Children are also encouraged to behave responsibly and foster respect for each other and their learning environment.

A foundation of life-long learning is built for the children by encouraging them to think and cultivate their own ideas in safe surroundings. Activities are planned carefully and children are supported by both teachers and teaching assistants in order to personalize their learning. This will let children grow confidence in making discoveries about the world around them. Each child is settled into the environment at a pace that suit him or her then encouraged to join in, make friends and have a goal. An adult who watches out for their every need supports every step of the way. Numerous trips are taken to support instruction and book learning through exploration.

2.21.2. Curriculum Pre-School

The British attach much importance to the Pre-school education. The curriculum at the Pre-School is structured to bring out the best in all the pupils to face the future challenges (The British School of Milan, Sir James Henderson).

Table 6.*Curriculum at the British Pre-School*

Communication and language	Expressive Arts and Design
• Listening and attention	• Exploring and using media and materials
• Understanding	• Being imaginative
• Speaking	
Literacy	Mathematics
• Reading	• Numbers
• Writing	• Shape, space and measures
Personal, Social and Emotional development	Physical development
• Making relationships	• Moving and handling
• Self-confidence and Self-awareness	• Health and self-care
• Managing feelings and behavior	
Specialist lessons in:	Understanding the world
• Physical education (PE)	• People and communities
• Music	• The world
• Guided reading	• Technology
• Library	

2.21.3. Primary School

The primary provides a safe, stimulating, purposeful environment in which students can flourish and excel. The caring atmosphere in the primary ensures that children have confident approach to learning what will help them grow as individuals through their lives. The ways of life at the primary are enthusiasm, curiosity and shared values. The curriculum is engaging, challenging and thought provoking, allowing scope for children to achieve their potentials. Sense of responsibility for others and being part of a community is gained through assembly, coming together to explore, and sharing ideas through music, drama and quiet reflection. Great emphasis is placed on the pupil's personal development; therefore, pastoral care is of highest quality at the primary.

Teachers and relations play major role in the development of each child's learning process.

2.21.4. Curriculum at the Primary Overview

The overview of curriculum at the British Primary School is designed portray showcase the abilities and competencies of every child (The British School of Milan, Sir James Henderson).

Table 7.

Overview of curriculum in the British Primary Schools

National curriculum of England and Wales	Duration of teaching
English and mathematics	taught daily
Science	taught by specialist
ICT	taught by specialist
History	taught by specialist
Geography	taught by specialist
Art	taught by specialist
Religious studies	taught by specialist
Personal, Social and Health Education	taught by specialist
Design and Technology	taught by specialist
Music	taught by specialist
Physical Education	taught daily

2.21.5. The School Day

A day's activity at the British Primary School; Pupils are psyched to adhere to the time and other activities that come together in acquiring knowledge.

Table 8.*A Routine Activity the British Primary School*

Registration	08:50-09:00
Lessons/activities(Assembly once a per year group	09:00-10:20
Break	10:20-10:40
Lessons/activities	10:40-12:00
Lunch-lunch Clubs and activities	12:00-13:20
Lessons/activities	13:20-15:20
After School Co-Curricular Activities Programme	15:20-16:20

2.21.6. Assessment

Assessments at the British Primary Schools are done to bring out the potentials in each pupil and the short falls of each pupil for more improvement. The following are how pupils are assessed at the primary schools (The British School of Milan, Sir James Henderson).

- Identifying children's knowledge and what they should be taught
- Informed planning (school/class/group/individual) target setting, information for guardians and governors, class organization
- Evaluate group progress
- Measure effective teaching interventions
- Inspire teachers and pupils
- Teachers motivate pupils to realize their ambitions
- Teachers provide a variety of teaching and learning approaches
- Teachers provide a wide range of assessment opportunities
- Teachers reference national curriculum
- Teachers mark children's work regularly.

2.21.7. Assessment Practices

Every British primary school teacher is mandated to adhere to the assessment practices to meet the target of the Nationals of England and Wales. The assessment practices are as follows.

1. Primary school assessment is referenced in order not to veer away from National Curriculum of England and Wales
2. Feedback to children should be prompt and supportive, with clear and specific goals for improvements and explanations on how to achieve this.
3. Teachers should keep tracking documents up to date on frog progress.
4. Reward good work using school systems.
5. Classwork and homework is assessed with both written and verbal feedback in line with the school's marking policy.

2.21.8. Reporting Pupils' Performance to their Parents and Guardians

Parents Evenings are held termly for all year groups. Each year group receives two written reports during the course of the academic year. These are record attainment, attitude to learning and targets.

2.21.9. Senior School

At the British schools, senior institute is an electrifying seven-year scheme. Students are taught to become more self-determining, to nurture palates (The British School of Milan, Sir James Henderson) and grow skills of scrutiny and appraisal. The conclusion of this course includes taking International Baccalaureate Diploma examination. There is sturdy prominence on increasing intellectual self-reliance, a talent that is vital at the conclusion of their school occupation when studying the International Baccalaureate Diploma. Concurrently with their academic development, students are aided in mounting strength of personality through a program Ingenuity, Activity and Service and Personal, Social and Health Education. This is a golden average qualification and a gate way to topmost universities around the world.

2.21.10. Faculty Structure

The Senior Schools in Britain are structured into Faculties. Students select their desired faculties with the guidance of their teacher and parents. The faculties are:

- English
- Languages
- Humanities
- Sciences

- Mathematics
- Creative Arts
- Physical Education

2.21.11. Higher Education

At the British schools, the sixth form team delivers expert Higher Education advice and guidance. They use the powerful online service to make carefully informed choices and to prepare excellent application for a wide range of universities from many different countries across the world. The sixth form leadership team provides students with personalized counseling and guidance as they make their future degree choices.

2.21.12. Structure of School Day

On the normal school day at the Higher Education level in Britain, the activities required to be undertaken are summarized in the table below.

Table 9.

Structure of A Day's Work at The Higher Education Level in Briton

School day	Start time	End time
Assembly/tutor Time	08:50 am	09:00 am
First lesson	09:00 am	09:40 am
Second lesson	09:40 am	10:20 am
Break	10:20 am	10:40 am
Third lesson	10:40 am	11:15 am
Forth lesson	11:15 am	11:50 am
Fifth lesson	11:50 am	12:25 noon
Lunch	12:25 non	13:20 pm
Sixth lesson	13:20 pm	14:00 pm
Seventh lesson	14:00 pm	14:40 pm
Eighth lesson	14:40pm	15:20pm

2.21.13. Assessment at The Higher Education Level

At the Higher Education Level in Briton, teachers are expected to assess the students on the following bases:

- Monitor the progress of learning and attainment
- Produce constructive, useful feedback for students and parents.
- Inform curriculum and assessment review where necessary

British School students

- Need strong cultural experiences, expectation and needs
- Must understand their learning successes and areas for improvement
- Require regular feedback, which constructively support their continued learning.

British school teachers are expected to:

- Motivate students to realize their ambitions
- Provide a variety of teaching and learning approaches
- Differentiate learning according to students' needs
- Provide a range of assessment opportunities (written, oral, peer, self, etc)
- Reference curriculum and international baccalaureate criteria
- Regularly mark students' work, providing high quality feedback both written and oral

2.21.14. Assessment Practice

Every British Higher school teacher is mandated to adhere to the assessment practices to achieve the target of the Nationals of England and Wales. The assessment practices are as follows.

- Feedback to students should be prompt and supportive with clear and specific goals for improvement and explanations on how to achieve this
- Teachers should keep clear records of formative and summative assessment results
- Reward good work with merits and commendations
- Any malpractice should be followed up using British School Academic Honesty Policy
- Classwork and homework are assessed with both written and verbal feedback, although not necessarily graded.

2.21.15. Reporting Students' Performances to their Parents and Guardians

Student-Parents-Teachers Evenings are held annually for all year groups. Each year group receives 3 grade cards and 1 full report during the course of the academic year. This records Attainment, Attitude to Learning and Targets.

2.21.16. Measurement of MI Theory

Gardner and Moran (2006) stipulate that Multiple Intelligences can interact firstly through inference, that is, the feebleness in one intelligence capacity may lead to the hindrance of actualizing of packed possible on another intelligence zone. A typical instance is a talented music student with low interpersonal (Intrapersonal) capacities may have complications in learning piano masterpieces because he/she may not focus during rehearsal. Secondly through compensations, that is where strong intelligences areas compensate or support the weaker ones. This is a direct contrast of Interference. Example is a musician who is better in writing music than he/she is at writing lyrics or the other way round. Catalysis is the third system of contact where a particular intelligence intensifies the appearance of another. A bodily kinesthetic student might easily sing or play the drums due to his kinesthetic abilities.

The above assertions indicate that multiple intelligences theory can be examined but not in isolation. All the intelligences have partners they best move with. For example, bodily kinesthetic intelligence moves with musical and interpersonal intelligences.

CHAPTER THREE

III. RESEARCH METHODOLOGY

This work is a comparative analysis between the curriculum development of British and Ghanaian education system built on the theory of multiple intelligences, its incorporation in the planning of lessons and its usage in teaching in the classroom as well as to determine the presence of traits of the nine intelligences within Ghanaian students.

I selected three schools for the research from Old Tafo/Pankrono Municipal Assembly of the Ashanti region of Ghana. The schools are Al-Azhariyya Primary School, Al-Azhariyya Junior High School and Al-Azhariyya Senior High School.

I began the data collection on Monday 14th and Tuesday 15 October 2019 at primary two classrooms of Al-Azhariyya primary school at exactly 07:00 am. The Arabic (Islamic) lessons begin at 07:00 am and end at 09:00 am. The secular education takes over until 02:30 pm.

On Wednesday 16th and Thursday 17th October, 2019, I did the data collection at primary six at the same school and the exact time as was done at primary two.

The junior high school's timetable was not different; it also starts at 07:00am to 09:00am for Arabic (Islamic) lessons and continued with the secular education until 03:00pm. Here, I conducted the data collection on the Wednesday 23th of October.

On Wednesday November 6, 2019, I did the observation at the Al-Azhariyya senior high school, the class started at exactly 07:00am with recitation of the Holy Quran up to 08:00am. The secular education takes over until 04:00pm.

Throughout the observations, Multiple Intelligences Survey was used as a guide and to make the research easy. Using SYA Murray's Thinking and Learning CAGS Course Acts F10, we were able to collect our data or information for this work. Murray's Thinking and Learning CAGS Course Acts F10 is tried and tested checklist of questions that meet that each of the intelligences in the classroom and it can be found on the internet on [www. NSTA NEWS](http://www.NSTA-NEWS.com). The Survey was used in the classrooms to know the extent of each of the intelligences available within a particular student and to identify materials that support learning through multiple intelligences. The sample of the Survey is shown in appendix.

The questionnaire has a scale ranging from very high, above average, average, below average and very low. Its points range from 5, 4, 3, 2 and 1 respectively.

After the survey, scores 27 or above mean highly developed intelligences while scores of 13 and below mean underdeveloped and unutilized intelligences.

3.1. Observation of Primary Two

At primary two, the number of the pupils was 43 with the age range of six and ten need not be put under a particular way of learning, all they need is happiness in the classroom; he therefore uses music and dancing as well as demonstrations during his lessons and the pupils enjoyed his lessons. The pupils were actually happy to see him anytime he entered the classroom. At the end of his class, he shared sweets as presents to all the pupils. The class was lively.

The secular education teacher indicated that the school had a syllabus to follow; she therefore follows the syllabus strictly in order to meet the target of the school. She also complained of the large size of the class as a hindrance to trying to bring any innovation into the teaching. She alluded to the fact that some of the pupils are very brilliant and learn faster than other learn. She mentioned that the interest of the pupils varies in terms of lessons. She had little knowledge concerning multiple intelligence theory. She is the class teacher; therefore, she teaches all the subjects in her class. She said the brilliant students are good at Mathematics and English while the poor ones perform well when it comes to craft work, playing, singing and the likes.

3.2. Observation of Primary Six

Primary six was just like primary two, lessons started at 07:00am with the Arabic instructor for two hours. There were 37 students. Pupils revised the lessons they did the day before in a grand style. The class has four groups each group is responsible for its group in terms of understanding of the lessons taught. This act brought out the talents from all the pupils and that made them active always. He said each student has a hidden talent, which can only be seen when he or she work with other students and try to help each other.

All the pupils stood up and greeted; welcome sir, when an elderly man entered the class. He has been a teacher for over thirty years; very experienced teacher who knew much about his pupils and their abilities. He blended almost all the intelligences

in his teachings. He had mastered all intelligences to the extent that he could not tell which his strength is. He said because of the curriculum designed for the municipality, the syllabus, time factor and the size of the class; he does not always give multiple intelligence survey to his pupils. He further indicated that note giving is compulsory in the district as it is what inspectors check first when they come to inspect a teacher's work.

3.3. Observation of The Junior High School

The junior high school of Al-Azhariyya Islamic is not different from any other junior high schools in the municipality. Students are taught subjects such as Math, Science, and English language and so on. Students here write Basic Education Certificate Examination (BECE) as other junior high schools do. Despite the fact that the available time for teaching and learning is shared between the Arabic teachers and the secular education teachers; it has consistently been one of the first five schools to do well in the BECE for over ten years.

The number of students at the second year class of Al-Azhariyya junior high school was 109 but divided into three classes JHS2A, 36 students, JHS2B, 37 students and JHS2C 36 students. I selected one class out of the three classes. I used simple random sampling to choose the class to observe. I folded three pieces of paper; each with the name of one of the classes on it and called a randomly passing by student to select one of the papers at random for me; JHS2B was chosen. It was Thursday 17 October, 2019. As usual, the Arabic teacher came and taught in a style contrary to the olden days, when canes were used on the students who could not recall what was taught the previous day they blended modern ways of teaching into the ways they taught the students. They tried to know the problems of the students they thought were not performing well and tried to solve them. Three Arabic teachers taught within the period allocated to them.

Just as the Arabic class was subject teaching at this stage, the secular education class was also subject teaching. All the four teachers who taught the class followed strictly to the syllabus as prescribed by the curriculum, among the teachers was the mathematics teacher; he started his class with an example that connected the previous topic to the current topic. He went further to explain the essence of that topic, he gave

about three examples concerning the topic and gave two class exercises to confirm their understanding to the topic, he had five minutes of his time left, he gave the students three assignments as home work. The other three teachers gave notes to the students and explained them to the understanding of the students. These teachers knew little about the theory of multiple intelligences. They used their own manipulative ways to let the students understand lessons.

3.4. A Brief History of the Establishment of Al-Azhariyya SHS

Al-Azhariyya Islamic school was only up to the junior high. Students from the school used to continue their senior high education in other senior high schools in the nearby communities. The Muslim communities started complaining in the changes of the behavior of their wards who were attending other schools apart from Islamic schools. Some of the students complained of them being denied place and time to pray their five times daily prayers. Other students were forced to attend church services in their various schools; which is contrary to Islamic teachings. Al Azhariyya was then established to address the above situations.

3.5. Observation of the Senior High School

On the Wednesday, November 6, 2019, 8:00 am, I began the survey in the selected class. The number of students was 41.

Senior high schools just as junior high schools also write West African Examination Certificate Examination (WACE) after three years of teaching and learning. This examination is written by some West African countries that speak English language. This examination qualifies a student to the university and other tertiary institutions. The teachers strive as much as they can to complete the prescribed syllabus in order to prepare the students for the final examination. The teachers do not have much time to introduce innovation into their teaching because they need to finish the prescribed syllabus. Almost all the teachers used the traditional method of teaching, notes writing is compulsory. The teachers here are mostly young university graduates from the various universities without any pedagogical training. And so most of the teachers do not know anything about the Gardner's several intellect philosophy.

To test the knowledge of some teachers on the multiple intelligences theory and its practice, a questionnaire was designed as in appendix 2.

The Questionnaire is to evaluate the knowledge of some teachers on the Gardner's Multiple Intelligences Theory and its usage in the classroom.

Qualified and knowledgeable teachers who are well acquainted with the Theory of Multiple Intelligences assisted me in administering the questionnaire. The concept of multiple intelligences is explained to the interviewees (participants) first, before the questionnaire is administered.

At the end of the observations and the interviews, the data were inputted into excel for analysis to know the number of indicators present from each of Gardner's multiple intelligences.



CHAPTER FOUR

IV. RESULTS OF THE ANALYSIS

The raw score of the students based on the survey conducted to know their strengths in terms of the intelligences; shows that all the pupils possess all the intelligences in different levels. Developing the intelligences will require much effort and knowledge of teaching and learning constructed on multi-intelligences.

The number of students in each of the classes surveyed was huge; I therefore curtailed the number of each class to twenty-five (25) students, to make the graph more visible. It is obvious from the graph below that all the pupils/students possess all the intelligences at different degrees. Some of the intelligences are left untapped; a few of them are being used. It is also clear that the most used intelligences have not reached their full potentials. This might be because of misplaced priority.

The average scores of the pupils on the intelligences show that children at this stage possess large portions of all the intelligences. Many of the scores are below 13 which is the lowest point that indicates that an intelligent is undeveloped. The intelligences could be harnessed and developed if the Multiple Intelligence Theory is applied in preparing their lessons and teaching. Scores between 13 and 27 are intelligences that are growing on their own without them being given any special attention; this is the main reason why a student surprises everyone with unexpected innovations. Typical examples are many good musicians in Ghana who have not had special tuition on how to be a good musician. A profound car maker in Ghana; Apostle Kwadwo Sarfo with patent name (KANTANKA) is a good example to site in Ghana. Many artisans at Suame Magazine in Kumasi are doing marvelous works in terms of car maintenance and manufacture of so many items without going through any formal education (Suame Magazine: Land of the artisanal engineers).

The numbers and the colors represent the intelligences.

- (1) represents Interpersonal Intelligent
- (2) represents Intrapersonal Intelligent
- (3) represents Linguistic Intelligent
- (4) represents Spatial Intelligent
- (5) represents Logical/mathematic Intelligent
- (6) represents Musical Intelligent

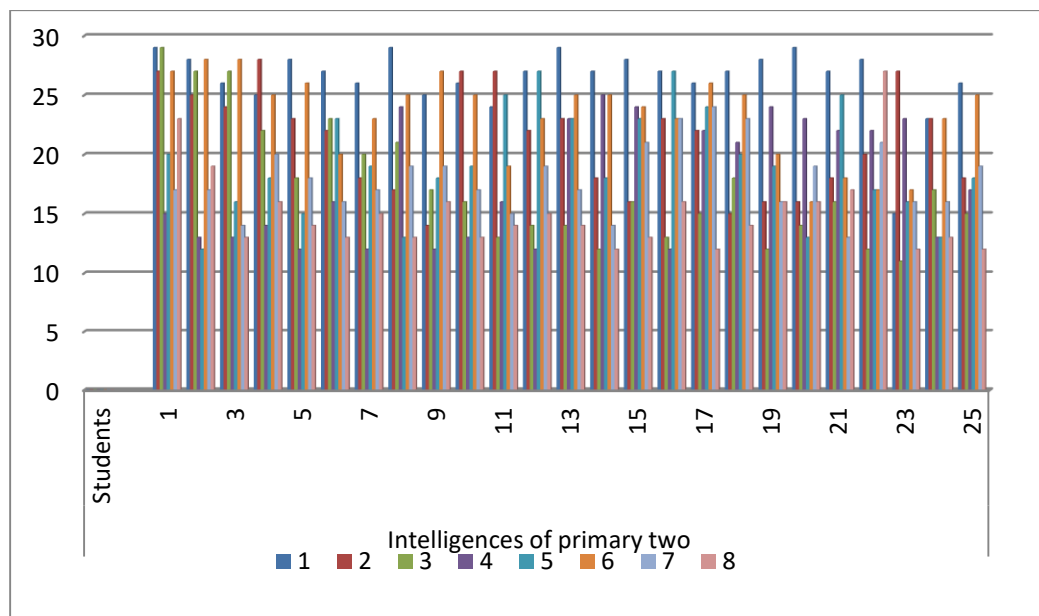
- (7) represents Bodily Kinesthetic Intelligent
- (8) represents Naturalistic Intelligent

4.1. The Raw Score from the Survey Conducted On Primary 2

It is clear from the raw scores of the students of primary two that all the twenty-five pupils/students possess all the eight intelligences in a varying degree. It is visible that the stem of the graph is thick; this is because all the intelligences are present and ready for harnessing at this level (0-13). Some of the intelligences stop progressing in the middle of the graph because there are no attempts to develop them; they therefore remain redundant. A few of the intelligences are used by the pupils/students not because those are their dominant intelligences but because they are the intelligences stressed on by the curriculum used for teaching and learning. Amazingly, the most used intelligent (logical/mathematics intelligent), could not reach the (27) mark and above the point which indicates that an intelligent has been utilized fully. This could be that logical/mathematical intelligent could be an imposed intelligent on the pupils/students.

Figure 2.

The Raw Score from The Survey Conducted On Primary 2



The unutilized intelligences growing on their own within the students without them being developed by any person show that there are potentials in them if attention was given to them. Students could have learnt and understood lessons better if efforts

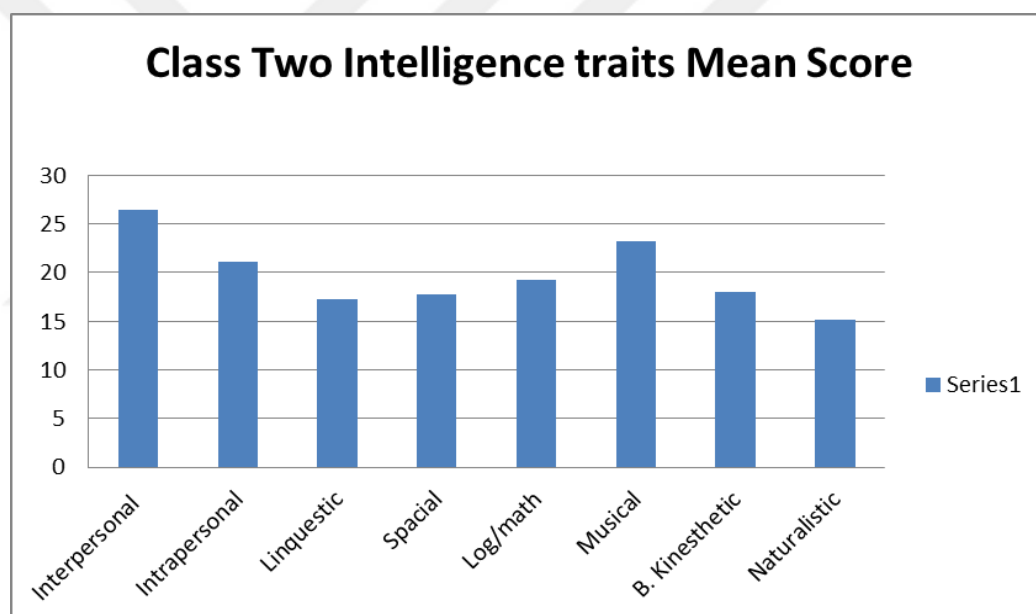
were put in developing all the intelligences. Each student could have found his/her style of learning that suits him/her well in the quest of acquiring knowledge.

4.1.1. The Average Score of the Class Two Pupils.

The average scores of the students for each of the intelligences below, vividly show that none of the intelligences is fully developed they are all below the limit (27). The reason could be that the students are not being guided to know their dominant intelligences; they are rather being forced to adopt one particular intelligent which might not be easy for them to adopt.

Figure 3.

The Average Score of the Class Two Pupils



The average score of each of the intelligences as shown above is the clear manifestation that the pupils are well endowed with all the intelligences in different proportions. Considering interpersonal intelligence, which had the higher mark of 26, was obvious among the pupils during the survey; the pupils ceaselessly interacted with each other in the course of learning and solving problem. Despite the fact that the pupils interacted with each other, it was seen that some of them were self-relied pupils, they were really drowned to themselves during all activities; this behavior exhibited that they possess more of intrapersonal intelligences. Intrapersonal intelligence is one of the most neglected intelligences, people with this kind of intelligence are usually called (antiso)

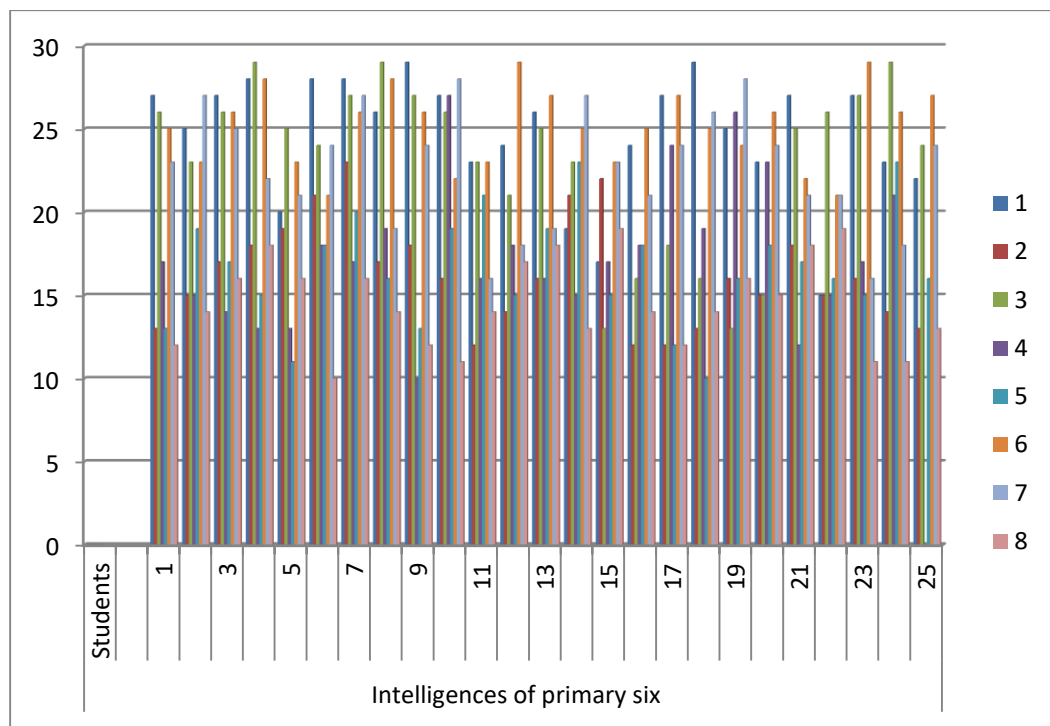
in Ghana, meaning they are anti-social which usually translate that they do not like people. Linguistic intelligence is one of the most cared for among the intelligences yet still it could not compete much with some of the intelligences that are not well cared for. Logical intelligence which is the most desired intelligence in Ghana and much concentration is given to it yet still intelligences such as musical, intrapersonal, musical and bodily kinesthetic intelligences which do not receive much attention were on the high within pupils.

4.2. The Raw Score of the Students at Primary Six.

Similar to the situation in primary two, the raw score of the students in primary six possess all the intelligences in the stage of their study; as time goes on many of the intelligences are abandoned not by their will but by the curriculum they are skewed towards. By default, some of the intelligences of the students without much focus on by the curriculum were able to attain the limit of 27 and above. These students are usually termed natural talents instead of dominant intelligence.

Figure 4.

The Raw Score of the Students at Primary Six



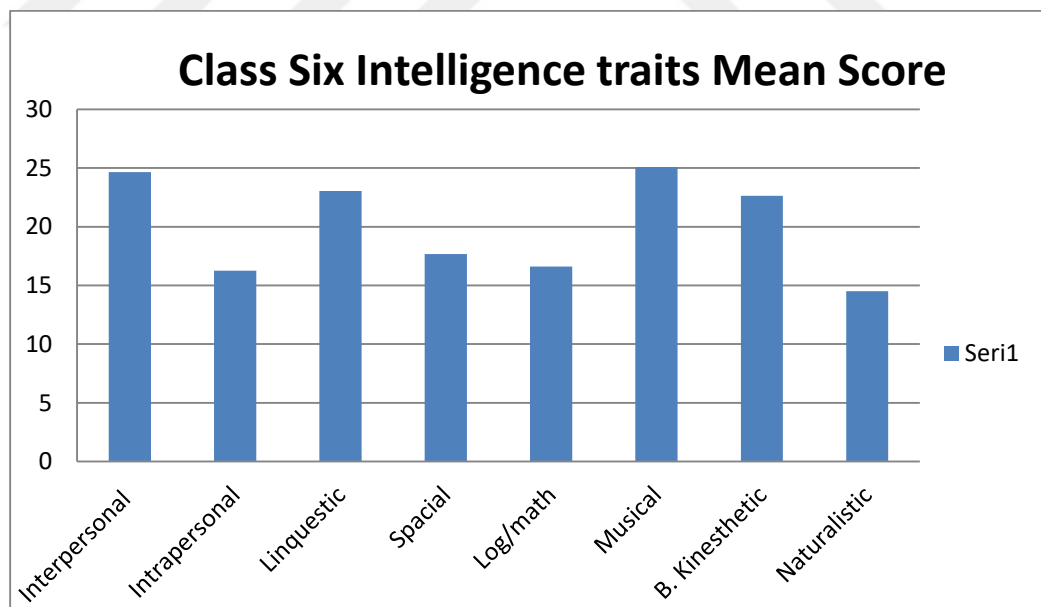
The row score recoded at primary six is a bit different from that of primary two, the difference is that the students are forced to concentrate on a few intelligences at the expense of the others. The curriculum put emphases on intelligences such as linguistic, interpersonal and logical intelligences; the students are therefore forced to abandon the intelligences that do not fall under the most important intelligences in Ghana. Some of the intelligences still find their way to develop within the students despite the fact that they have been abandoned, this means that those intelligences are the dominant intelligences of those students.

4.2.1. The Average Intelligences Score for Primary Six.

The averages of the intelligences indicate that none of them have actually attained the level at which they will be considered as fully developed intelligences. All the intelligences averagely lie below the limit of 27. This means that the dominant intelligences are not being explored.

Figure 5.

The Average Intelligences Score For Primary Six



The above graph is the average score of each of the intelligences within the class six students. It is obvious that some of the intelligences have been left behind in terms of growth. Linguistic and interpersonal intelligences receive much attention in Ghana but yet still musical intelligence has the highest average trait within the students of class

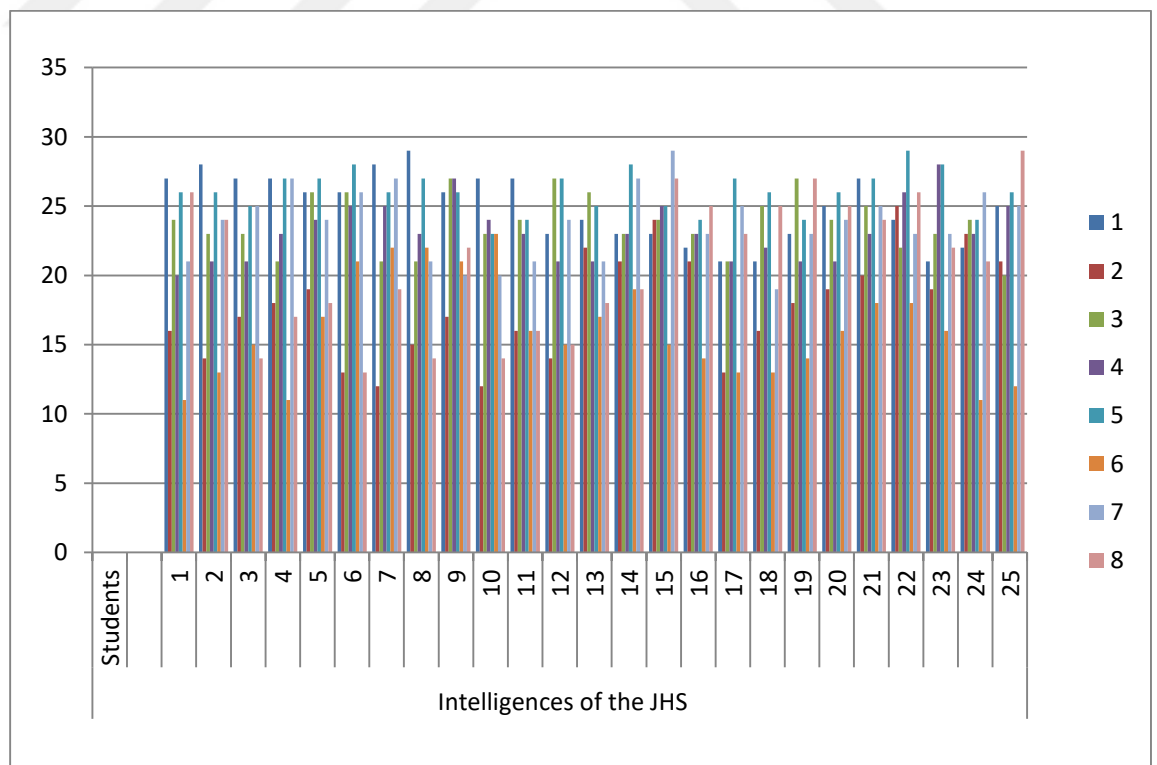
six. Logical intelligence which is the most valued intelligence in Ghana was in around same trait with intelligence such as intrapersonal, special and naturalistic intelligences that do not get much attention.

4.3. The Raw Score of the Intelligences for JHS2 Students

This stage is crucial in the life of Ghanaian student. The student is exposed to subjects and courses that will mold and affect his/her future choice of a career. The student is supposed to scan the various subjects and align him/herself to what he/she prefers and can learn and understand best. It could be seen in the graph below that almost all the students are trying to learn all the subjects at this stage so that they have a best choice; this in effect makes them revive the intelligences. If this phenomenon could continue for a long period of time, teachers would be able to know the dominant intelligences of all the students and shape their future for them instead of depending on one form of examination to determine what they should consider to learn at the senior high school.

Figure 6.

The Raw Score of the Intelligences for JHS2 Students



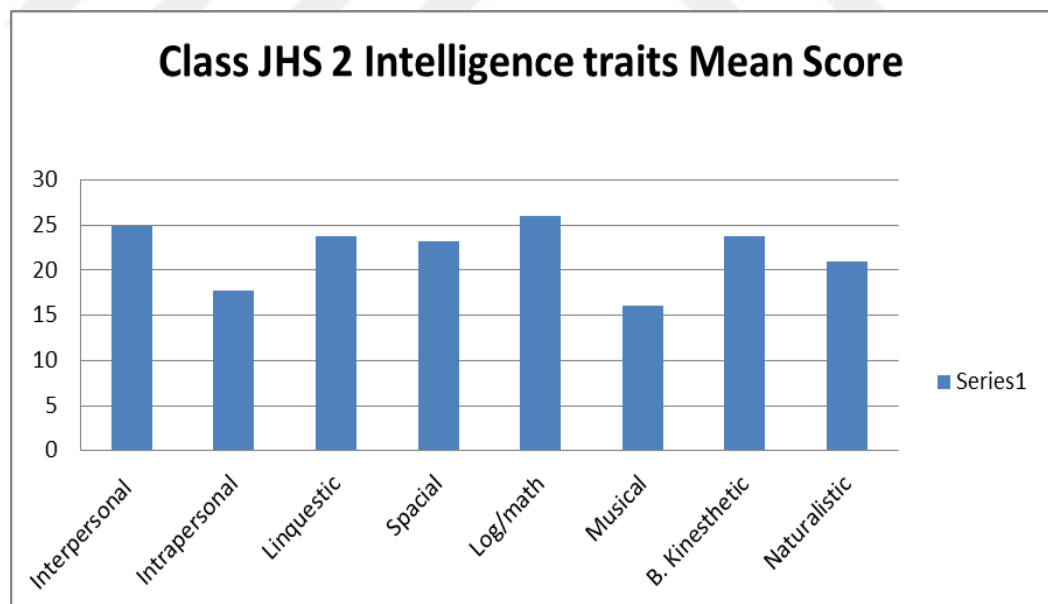
The raw score of the traits of the intelligences of the JHS2 students show growth in all the intelligences, this is because students are made to learn variety of courses at this stage in order to prepare them to know their strengths and weaknesses. The students would have to choose courses of study in the senior high school depending on their strengths and understanding. This spontaneous learning of all the courses revives all the intelligences in the students.

4.3.1. The Average Intelligences Score for JHS 2

It is really here with the averages of the trait of the intelligences in the students. All the averages for the intelligences are above the minimum point (13) below which an intelligent is considered to be dormant. Had the teachers known the theory of multiple intelligences they would have figured out that all the students have some amount of intelligences in all the types of the available intelligences in different proportions.

Figure 7.

The Average Intelligences Score for JHS 2



Obviously logical intelligence was seen to grow than the rest of the intelligences; this is so because it is the most important intelligence at this level failure in subjects related the logical intelligences would mean the end of education for that particular student. The teachers at this stage have to do all their best to ensure that the

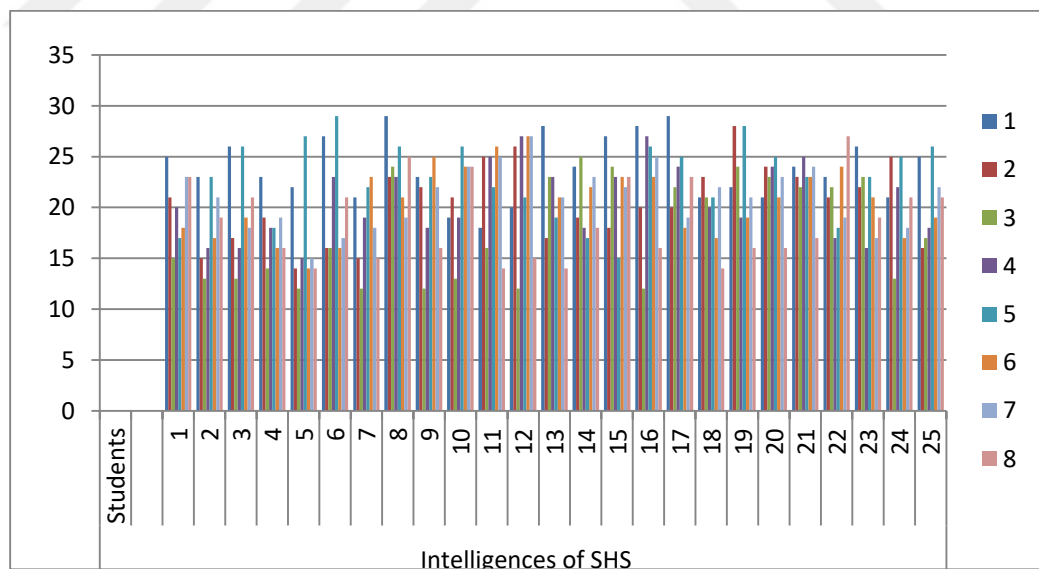
students pass well in all the subjects especially in Mathematics, English and Science. All the subjects are developed here in order to prepare the path for their future course selection.

4.4. Raw score of intelligences for SHS 2

This is a continuation of junior high school. Students have chosen direction they want to pursue and finally major at the university. Apart from the elective courses, all the students study common core subjects, failure of which may result in the student not being able to get admission into the university even if a student excels in the chosen courses. This could have been a good chance to recognize the overriding intelligences of the schoolchildren for further upgrading but the emphases are on the subjects that are under the logically/mathematical intelligence (Science, Mathematics and English Language). It apparent from the graph above that all the intelligences of the students are going up, which is a good indicator that every student possesses certain level in all the intelligence in different percentages.

Figure 8.

Raw Score of Intelligences for SHS 2



The senior high school is a preparation level for students to either progress in their educational quest to the university or to the technical institution to learn a handy craft. Teachers are tasked to teach the students in specific fields in order to develop the dominant intelligences of the students so that they choose courses that will suit them at

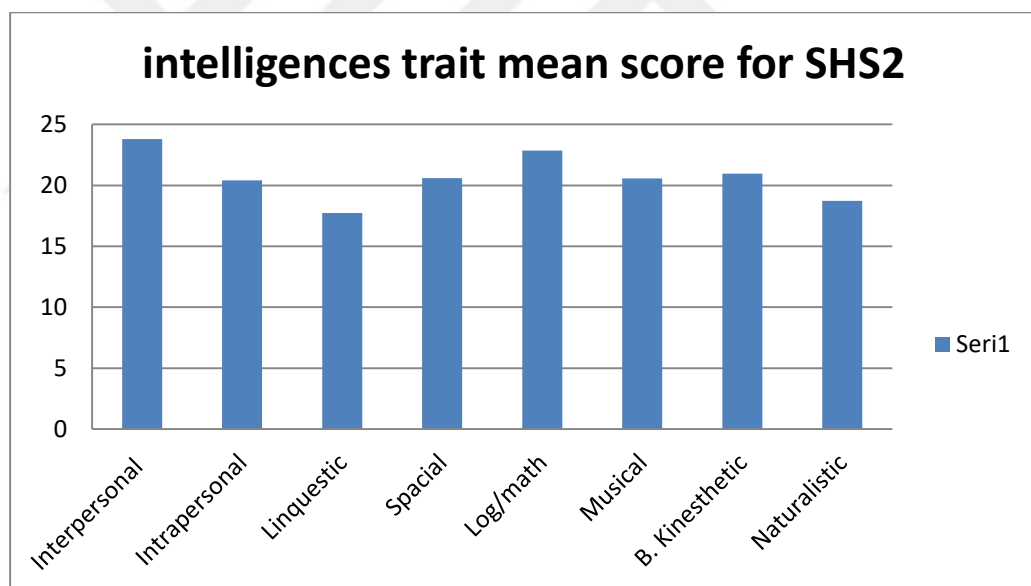
the university. It can therefore be seen that all the intelligences are growing for each student at a different proportion. Failure or low scores in subjects such as English language, Mathematic or Science would mean repeating the class and rewriting till a good grade is scored else no university education for such a student.

4.4.1. *The Average Intelligences Score for SHS 2*

It can vividly be seen in the mean score of SHS2 that all the intelligences have their fair share in terms of growth; this is so because the students have unknowingly been exposed to all the intelligence through the courses they are undertaken. That in effect, is reviving all the dormant intelligences of the students. The unfortunate event at this stage is that all the students will be examined with only one form of assessment which may cause the failure of some of the students; usually majority of the students.

Figure 9.

The Average Intelligences Score for SHS 2



The average score of the intelligences for SHS2 shows high growth in logical and interpersonal intelligences, this so because failing to pass well in these subjects would mean repeating the exams or giving up in the quest for higher education. Almost all the intelligences are going up at this stage, the reason being that most of the students know themselves well and what they are capable of doing. Some students develop their career right from the senior high school due to many activities that go on at this level.

The above survey and its subsequent graphs affirm the Gardner's notion that suggests that all students possess some degree of all the intelligence in different proportions.

The results of the survey conducted on the teachers to know the extent of their knowledge on the Howard Gardner's Multiple Intelligences theory, its application in the preparation of lessons and delivery of content to the pupils/students produced the following.

4.5. The Output of the SPSS Operation

The out of the Statistical survey conducted on 300 instructors to find out their knowledge of the philosophy of multiple intelligences.

Table 10.

The Output of the SPSS Operation

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Valid N	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	2.89	3.03	3.18	3.31	3.29	3.11	1.87	2.94	3.01	2.99	3.05	1.96	1.95	3.04	1.67
Std. Deviation	1.038	.948	.758	.656	.767	.901	1.027	1.039	.824	.722	.662	1.078	1.035	2.561	.834
Variance	1.077	.899	.574	.430	.588	.811	1.054	1.080	.679	.522	.439	1.162	1.071	6.560	.696
Skewness	-.584	-.842	-.818	-.431	-.861	-.848	.704	-.653	-.524	.020	-.058	.612	.702	13.722	1.023
Std. Error of Skewness	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141	.141
Kurtosis	-.816	-.119	.648	-.730	.207	-.003	-.904	-.746	-.258	-1.074	-.710	-1.067	-.774	220.195	.170
Std. Error Kurtosis	.281	.281	.281	.281	.281	.281	.281	.281	.281	.281	.281	.281	.281	.281	.281
Range	3	3	3	2	3	3	3	3	3	2	2	3	3	43	3
Minimum	1	1	1	2	1	1	1	1	1	2	2	1	1	1	1
Maximum	4	4	4	4	4	4	4	4	4	4	4	4	4	44	4
Sum	866	909	953	994	987	932	562	882	903	896	916	588	585	912	502

The statistic above has fifteen questions, each of them clearly defined as follows:

4.5.1. The Extent of the Multiple Intelligent Knowledge of the Teacher.

The total population is 300 with no missing value. The mean for Q1 is 2.89; the deviation from the sample mean is 1.038; the dispersion among the observation (variance) in this series is 1.077; the skewness which measure the degree of asymmetry in this series is -0.584 which is abnormal because a normal should be equal to zero (0);

the kurtosis is -0.816, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 11.

SPSS Output of the Teacher Knowledge on Multiple Intelligences Theory

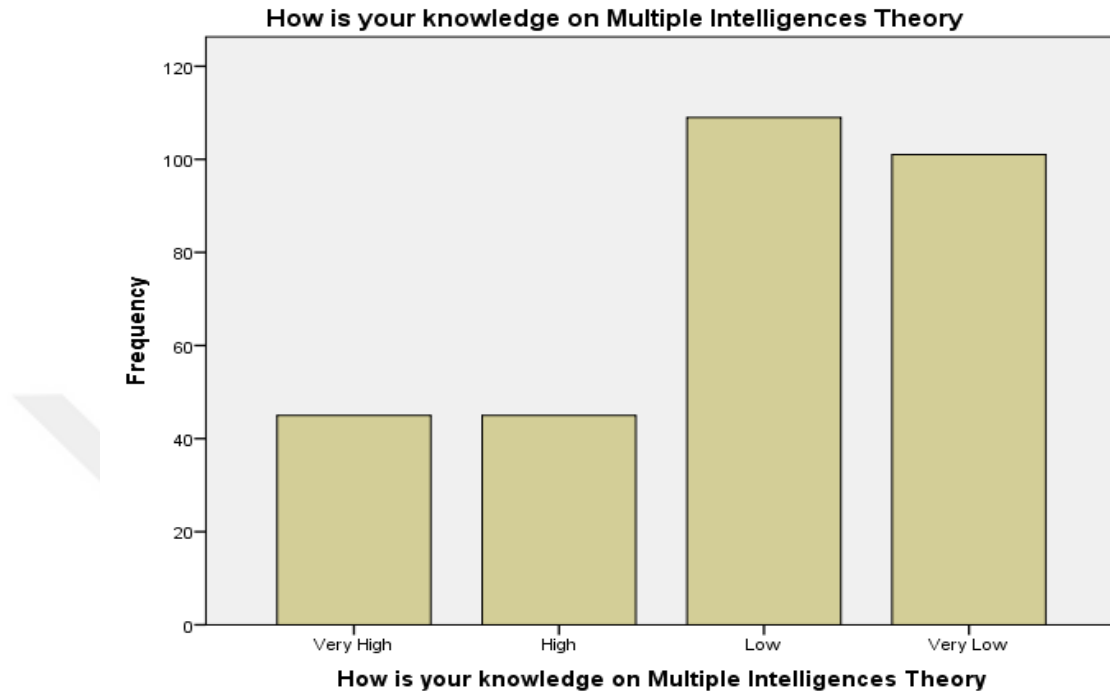
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	45	15.0	15.0	15.0
	High	45	15.0	15.0	30.0
	Low	109	36.3	36.3	66.3
	Very Low	101	33.7	33.7	100.0
	Total	300	100.0	100.0	

This question is designed to check the knowledge of the teacher on the theory of multiple intelligences, 45 out of the 300 respondents (15%) claimed they know the theory very well and could implement it to the fullest. Another 45 (15%) of the respondents showed that they know the theory of multiple intelligences but not too much. Using it to prepare lessons and teaching might pose problem for them. These two groups constitute 30% of the entire population that took the survey.

Out of the 300 respondents 109 (36.3%) said they have heard something about the theory but do not have any knowledge about it. The rest of the respondents that is 101(33.7) acknowledge that they do not know and have never heard anything about the theory of multiple intelligences. The graph below shows the above situation very clearly.

Figure 10.

The Graph of Question 1(Q1), The Multiple Intelligent Knowledge of The Teacher.



It is very clear that most Ghanaian teachers have little knowledge of the Gardner's Concept of Numerous Intellect. Just about 30% of the respondents claimed knowledge of the concept. Out of the 30%, 15% are those who could use the theory in preparing lessons and teaching. Those who have no knowledge of theory are enormously 70% (210 teachers).

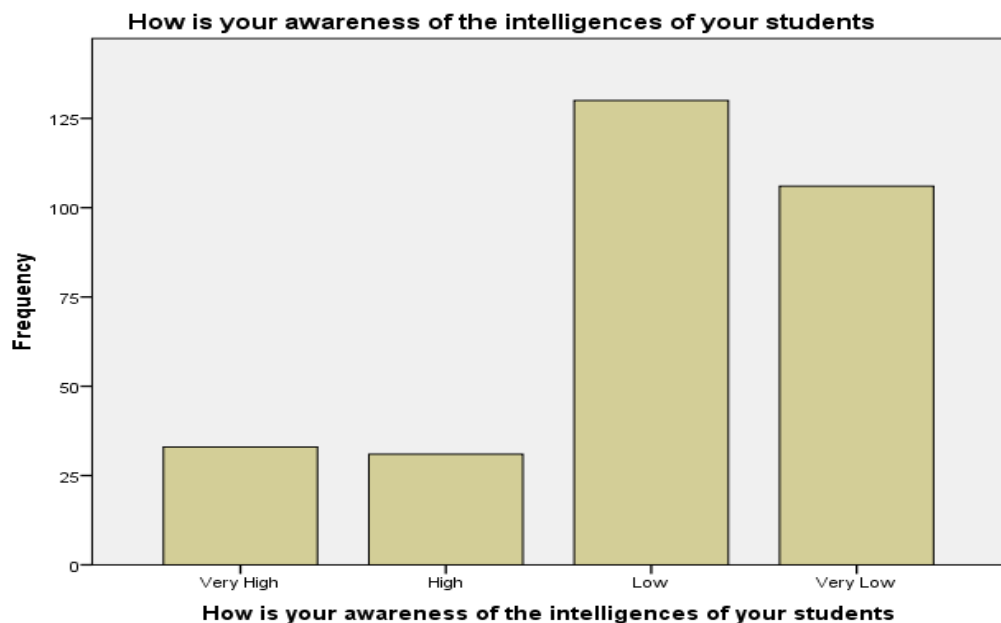
4.5.2. Teacher's Awareness of The Intelligences of His Students

The total population is 300 with no missing value. The mean for Q2 is 3.03; the deviation from the sample mean is 0.948; the dispersion among the observation (variance) in this series is 0.899; the skewness which measure the degree of asymmetry in this series is -0.842 which is abnormal because a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is -0.119, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 12.*SPSS Output of The Teacher Awareness of The Intelligences Of Your Students*

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	33	11.0	11.0	11.0
High	31	10.3	10.3	21.3
Valid Low	130	43.3	43.3	64.7
Very Low	106	35.3	35.3	100.0
Total	300	100.0	100.0	

This question was designed to be a checked on the first question. Some people may feel shy to say they do not know anything about multiple intelligences; this question will expose those people. Here only 21.3% (64 respondents) are aware of the intelligences of their students. 78.7% (246 respondents) are not aware of the intelligences of their students. The graph below is the representation of the above situation.

Figure 11.*Graph of the Teacher's awareness of the intelligences of his students.*

This bar graph above depicts the above statistics. Very few teachers are aware of the intelligences of their students. Only 33 teachers, that is, 11% of the total number of

teachers interviewed indicated that they are aware of the intelligences of their students. 31 teachers, thus 10.3% of the teacher said they aware of the intelligences of their students but not fully.

4.5.3. The Training of the Teacher on Multiple Intelligences

The total population is 300 with no missing value. The mean for Q3 is 3.18; the deviation from the sample mean is 0.785; the dispersion among the observation (variance) in this series is 0.574; the skewness which measure the degree of asymmetry in this series is -0.818 which is abnormal because a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is 0.648, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum

Table 13.

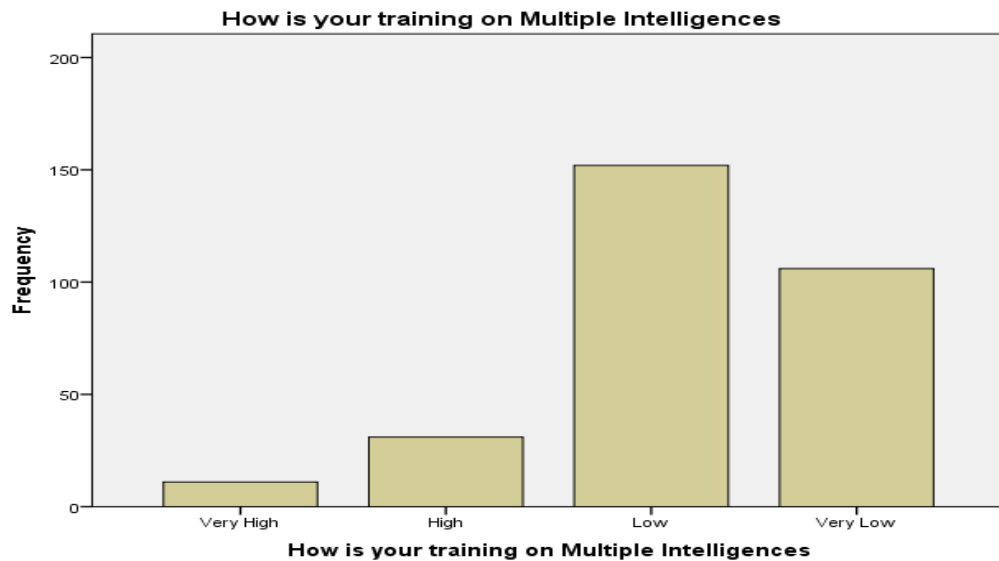
SPSS Output of the Teachers' Training on Multiple Intelligences

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	11	3.7	3.7	3.7
High	31	10.3	10.3	14.0
Valid Low	152	50.7	50.7	64.7
Very Low	106	35.3	35.3	100.0
Total	300	100.0	100.0	

This question is to know if teachers in Ghana undergo training on the theory of multiple intelligences. It is clear from this survey that teachers in Ghana do not receive training on the theory and its usage. Only 11 respondents (that is 3.7%) indicated that they had some training on the theory. The bar graph below shows the above situation clearly. 10.3% (31 respondents) indicated that they had some training on the theory of multiple intelligences but was not thorough. 152 (50.7%) said they have low knowledge on the theory. 106 (35.3%) of the respondents indicated that they do not have any knowledge of the theory of multiple intelligences.

Figure 12.

Graph of the teachers' training on MIT



It is very clear from the graph that very few respondents had training on the theory of multiple intelligence theory. Those who said their training on the theory is very high are just 3.7%; those said their level of training is high are 10.3%; combining the two, gives just 14% which is very low. This means that 86% of the respondents do not have any training on the theory.

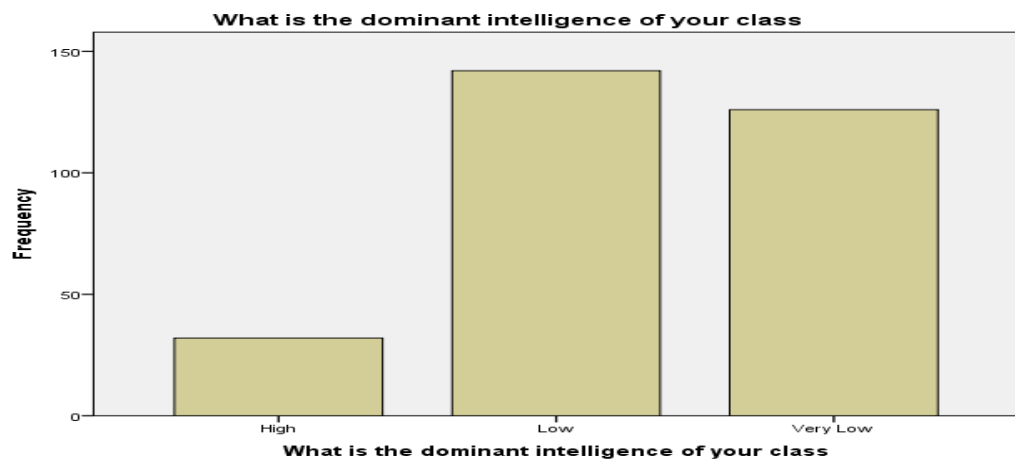
4.5.4. Teachers' Knowledge of the Dominant Intelligences of His Class

The total population is 300 with no missing value. The mean for Q4 is 3.31; the deviation from the sample mean is 0.656; the dispersion among the observation (variance) in this series is 0.430; the skewness which measure the degree of asymmetry in this series is -0.431 which is abnormal because a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is -0.730, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 2 with 2 as the minimum and 4, maximum

Table 14.*SPSS Output for Teacher Dominant Knowledge of Class*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid High	32	10.7	10.7	10.7
Low	142	47.3	47.3	58.0
Very Low	126	42.0	42.0	100.0
Total	300	100.0	100.0	

This statistic is very interesting; no respondent showed highly that he/she knows the dominant intelligent of his students. Those that indicated high knowledge of the dominant intelligences of their students is just 10.7% (32) of the total respondents. 142 (47.3%) of the respondents' knowledge on the dominant intelligences of their students are low..126 (42%) said that they strongly do not know the dominant intelligences of their students. The bar chart below shows the above information clearly.

Figure 13.*The Graph of Teachers Knowledge Of The Dominant Intelligence Of His Class*

It is clearly seen on this graph that very high knowledge of the intelligences of the students is missing here, this is so because no respondent claimed very high knowledge of the intelligences of their students. The high knowledge on the graph shows little frequency (32 respondents, representing 10.7%) of the total respondents. Low (142 respondents, representing 47.3%) and very low (126 respondents, representing

42%) knowledge of the dominant intelligence have taken the huger part of the frequency.

4.5.5. Teachers' Capitalization of the Dominant Intelligences for Lesson Plan

The total population is 300 with no missing value. The mean for Q5 is 3.29; the deviation from the sample mean is 0.767; the dispersion among the observation (variance) in this series is 0.588; the skewness which measure the degree of asymmetry in this series is -0.861 which is abnormal because it is negative, a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is 0.207, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 15.

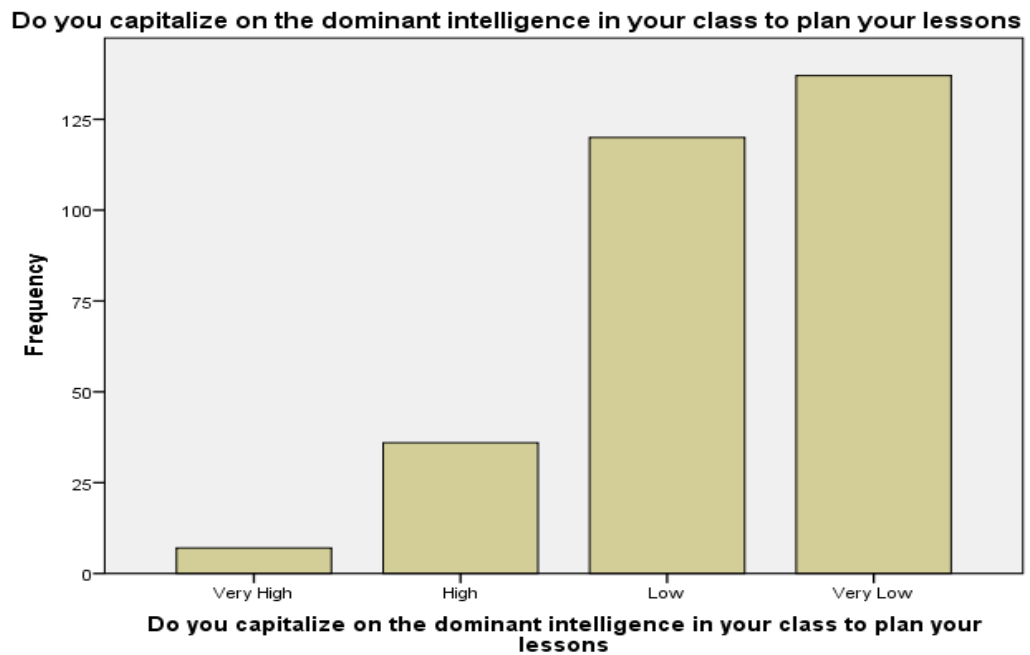
SPSS Output of Teachers Capitalization On the Dominant Intelligence in Class to Plan Lessons

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	7	2.3	2.3	2.3
High	36	12.0	12.0	14.3
Valid Low	120	40.0	40.0	54.3
Very Low	137	45.7	45.7	100.0
Total	300	100.0	100.0	

Implementation of the theory of multiple intelligences in the preparation of lesson plan is tested. Only 7 (2.3%) respondents affirmed highly that they consider the dominant intelligence in their classes to plan their lessons. 36 respondents, representing 12% indicated that they somehow consider the dominant intelligences in their classes to plan their lessons. 120 (40%) respondents said they hardly consider the dominant intelligence of their classes in planning their lessons. 137 (45.7%) of the respondents answered that they do not consider the dominant intelligences of classes in planning the lessons. The bar graph below, attests to the above information.

Figure 14.

Graph of Usage of Dominant Intelligence for Lesson Plan



It is obvious from the graph that very few respondents (2.3%) indicated they capitalize on the dominant intelligences of the student to plan their lessons. 12% of the respondents also indicated that they somehow consider the dominant intelligences in planning lessons. 120 (40%) are those who showed that they seldom consider the dominant intelligences of their students in planning their lessons.

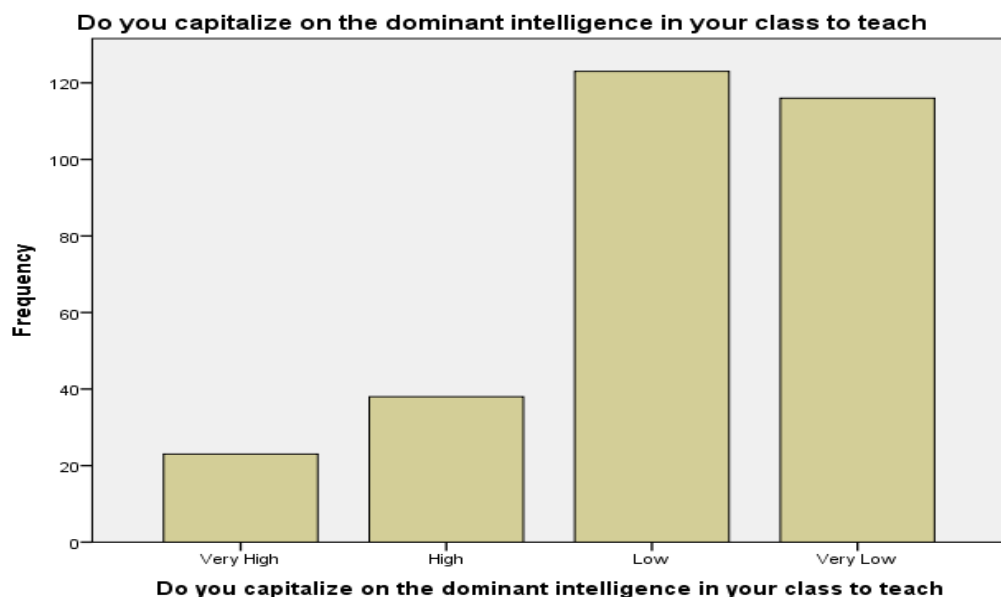
4.5.6. Capitalization on the Dominant Intelligent in Teaching

The total population is 300 with no missing value. The mean for Q6 is 3.11; the deviation from the sample mean is 0.901; the dispersion among the observation (variance) in this series is 0.811; the skewness which measure the degree of asymmetry in this series is -0.848 which is abnormal because it is negative, a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is- 0.003, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum

Table 16.*SPSS Output of Teachers Capitalization on Dominant Intelligence for Teaching*

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	23	7.7	7.7	7.7
High	38	12.7	12.7	20.3
Valid Low	123	41.0	41.0	61.3
Very Low	116	38.7	38.7	100.0
Total	300	100.0	100.0	

This question follows the planning of lessons stage. 23 (7.7%) of the respondents affirmed that they use the dominant intelligences of the students to teach their lessons. 38 (12.7%) of the respondents said that they do not usually capitalize on the dominant intelligences of their students to teach. 123 (41%) respondents do not depend on the dominant intelligences of the class to teach. 116 (38.7%) strongly believe that they do not capitalize on the dominant intelligences of the class to teach. This is depicted in the graph below.

Figure 15.*The Graph of Capitalization on the Dominant Intelligences in Teaching*

The respondents who said they very highly capitalize on the dominant intelligences of the students to teach are very few (7.7%). Those who said they highly

capitalize on it are (12.7%). Those who lowly use it are (41%). Those who do not use it at all are (38.7%)

4.5.7. Planning of Lesson Based On Curriculum That Must Be Completed within Specific

The total population is 300 with no missing value. The mean for Q7 is 1.87; the deviation from the sample mean is 1.027; the dispersion among the observation (variance) in this series is 1.54; the skewness which measures the degree of asymmetry in this series is 0.704 which is a normal because a normal should be equal to zero (0). The kurtosis is- 0.904, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum

Table 17.

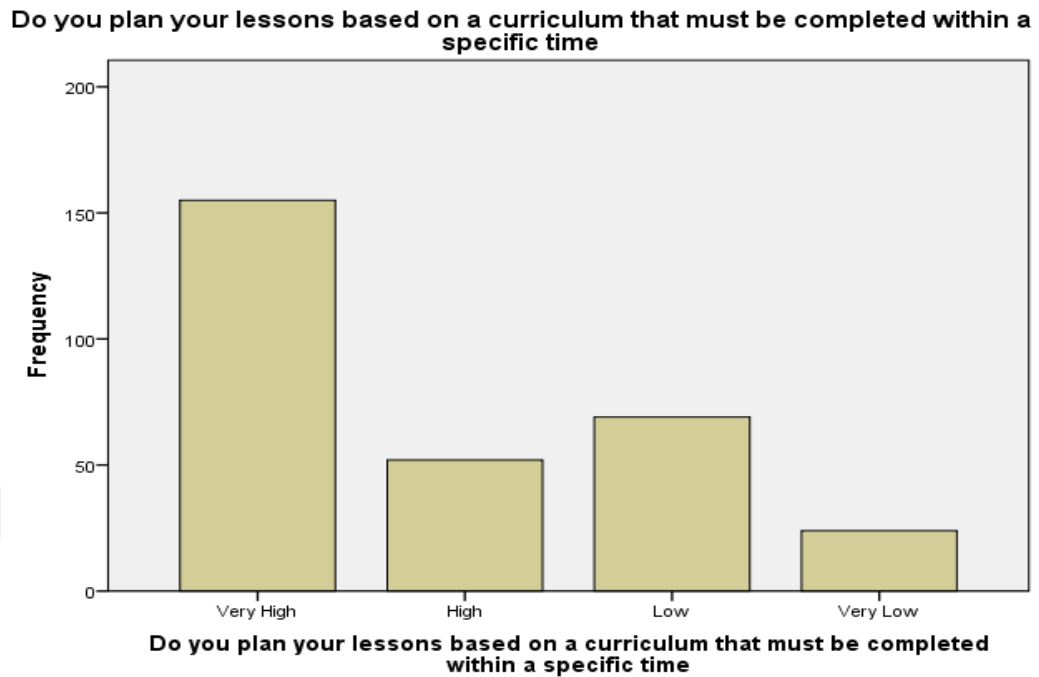
SPSS Output Of Planning Of Lessons Within Specific Time Based on Strict Curriculum

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	155	51.7	51.7	51.7
High	52	17.3	17.3	69.0
Valid Low	69	23.0	23.0	92.0
Very Low	24	8.0	8.0	100.0
Total	300	100.0	100.0	

Answers to this question indicate that teachers plan their lessons based on a curriculum that must be followed to the fullest. 155 respondents said their lessons must be planned very strongly based on the curriculum. 52 respondents highly affirmed that their lessons must be based on the curriculum. 69 respondents said that they do not usually depend on the curriculum to plan their lessons. 24 respondents confirmed that they do not use the curriculum at all in planning their lessons. The graph below is a depiction of the above situation.

Figure 16.

The Graph of the Process of Lesson Plan based on specific time



It is obvious that usage of strict curriculum in planning lessons dominate in Ghanaian schools. 51.7 % of the respondent confirmed that they must follow a strict curriculum in planning their lessons. 17.3% of the respondents agreed it compulsory to use the curriculum in planning lessons but one can add his/her input to it. 23% of the respondents said it is not strict to depend on the curriculum for planning of lessons. Just 8% of the respondents do not use the strict curriculum to plan their lessons.

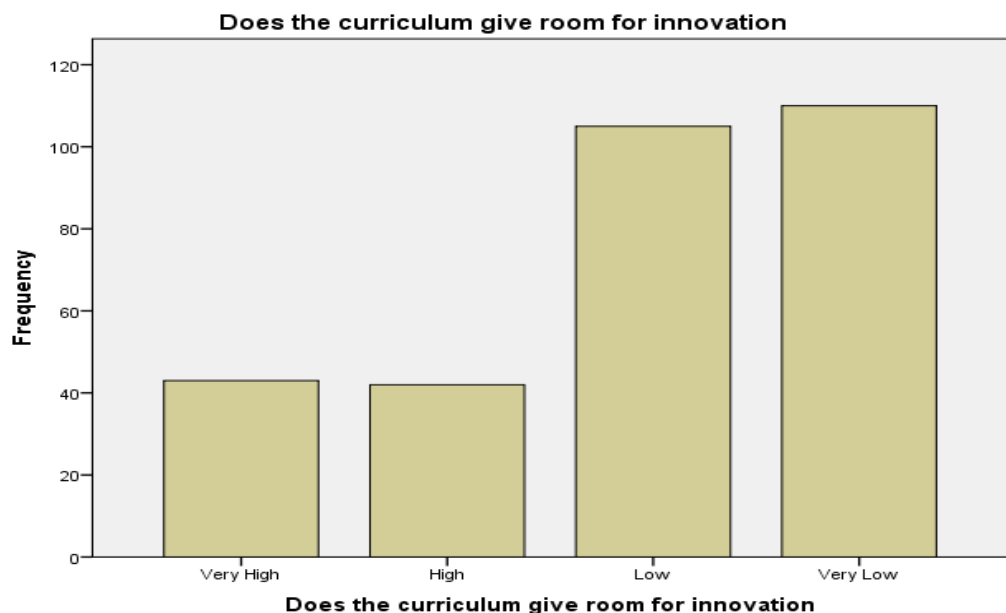
4.5.8. Room for Innovation in the Curriculum

The total population is 300 with no missing value. The mean for Q8 is 2.94; the deviation from the sample mean is 1.039; the dispersion among the observation (variance) in this series is 1.080; the skewness which measure the degree of asymmetry in this series is -0.653 which is abnormal because it is negative, a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is- 0.746, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 18.*SPSS Output of Room For Innovation in The Curriculum*

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	43	14.3	14.3	14.3
High	42	14.0	14.0	28.3
Valid Low	105	35.0	35.0	63.3
Very Low	110	36.7	36.7	100.0
Total	300	100.0	100.0	

The possibility for innovation into the curriculum is very little, 43 respondents believe very strongly that there could be an innovation into the curriculum. 42 teachers highly believe that there could be innovation into the curriculum. 105 teachers answered that ability to innovate something into the curriculum is low. 110 respondents believe that it is impossible to innovate into the strictly designed curriculum. The graph bellow is a representation of the above phenomenon.

Figure 17.*The Graph for Innovation in The Curriculum*

The curriculum is strict though but some respondents indicated that there could be some room for innovation into it. 14.3% of the respondents very highly believe that there could be innovation into the curriculum. 14% also believe that it is possible to

innovate into it. 35% of the respondents said that the possibility to innovate into the curriculum is low. 36.7% believe that it is totally impossible to innovate into the strictly planned curriculum.

4.5.9. Possibility of Applying MIT in the Classroom

The total population is 300 with no missing value. The mean for Q9 is 3.01; the deviation from the sample mean is 0.824; the dispersion among the observation (variance) in this series is 0.679; the skewness which measure the degree of asymmetry in this series is -0.524 which is abnormal because it is negative, a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is- 0.258, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 19.

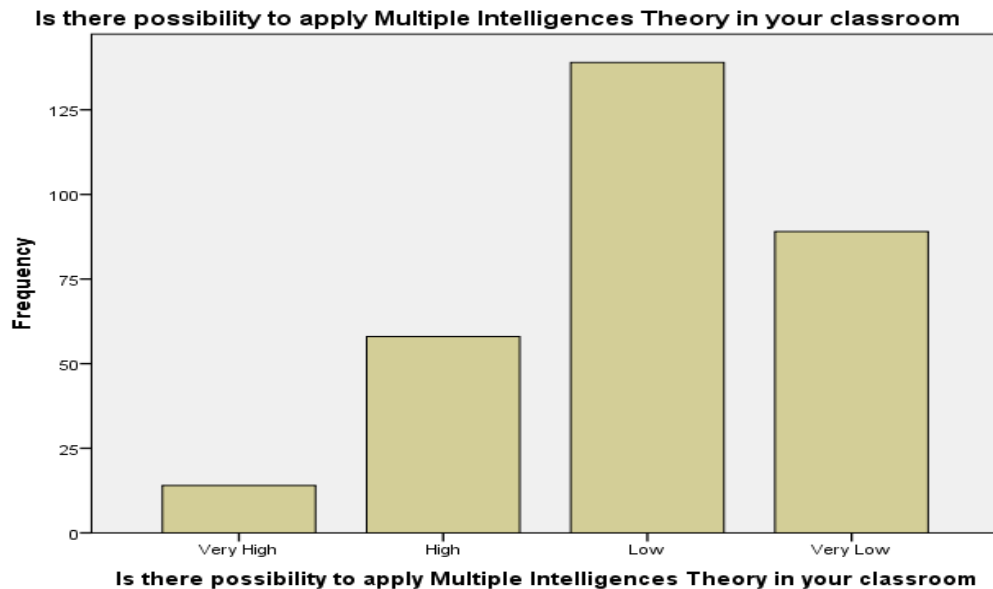
SPSS Output of Application of MIT in The Classroom

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	14	4.7	4.7	4.7
High	58	19.3	19.3	24.0
Valid Low	139	46.3	46.3	70.3
Very Low	89	29.7	29.7	100.0
Total	300	100.0	100.0	

As to the application of multiple intelligences theory in the class room, 14 respondents agreed that it is very highly possible. 58 respondents said it is highly possible. 139 respondents said it is low to implement multiple intelligences theory in the class room. 89 of the teachers said it never possible to apply multiple intelligences theory in the Ghanaian class room. Below is the graph of the above information.

Figure 18.

The Graph of Possibility of Applying MIT in The Classroom



Teachers who indicated that it is very highly possible to apply multiple intelligences theory in the classroom are 4.7% of the respondents. Those highly believe that is possible are 19% of the respondents. Those who answered that it is low to apply it in the classroom are 46.3% of the respondents. 29.7 % indicated that it highly impossible to apply multiple intelligences theory in the Ghanaian classroom.

4.5.10. Size of Classroom and Application of MIT

The total population is 300 with no missing value. The mean for Q10 is 2.99; the deviation from the sample mean is 0.722; the dispersion among the observation (variance) in this series is 0.522; the skewness which measure the degree of asymmetry in this series is -0.524 which is abnormal because a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is- 1.074, this is not normal distribution because the kurtosis value is less than 3 and it is negative, this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 2 with 2 as the minimum and 4, maximum.

Table 20.

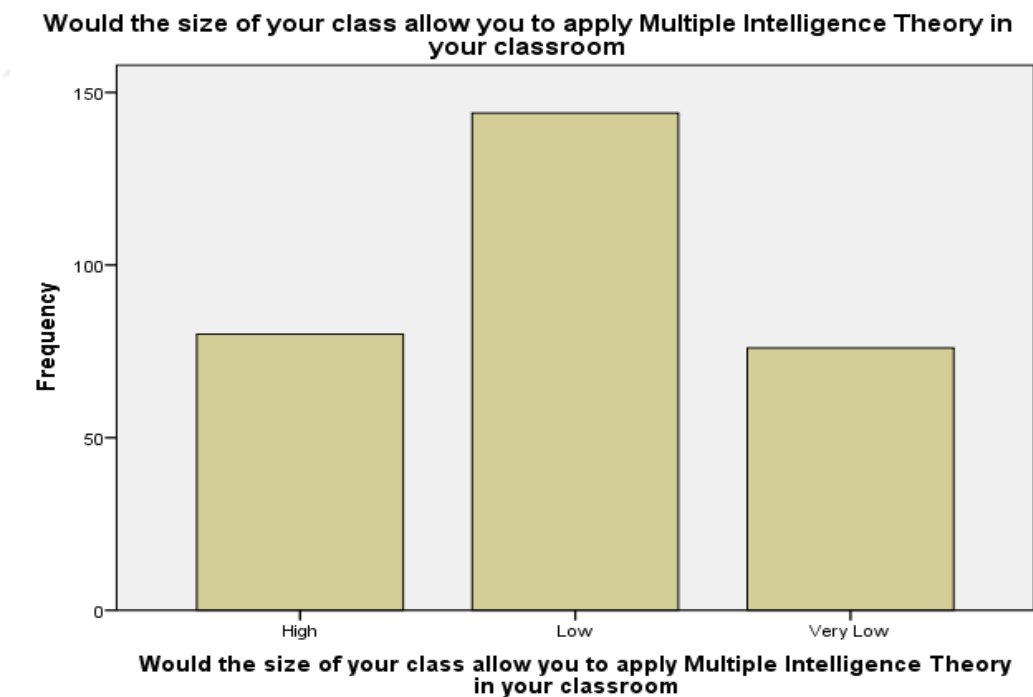
SPSS Output of the Size of Classroom and Application of MIT

	Frequency	Percent	Valid Percent	Cumulative Percent
High	80	26.7	26.7	26.7
Low	144	48.0	48.0	74.7
Very Low	76	25.3	25.3	100.0
Total	300	100.0	100.0	

Ghanaian schools have large classes which makes application of multiple intelligences theory very difficult. None of the respondents very highly believe that it is possible. 80 teachers believe that it is somehow possible. 144 respondents said it not possible and 79 respondents very strongly believe that it is never possible due large sizes of Ghanaian classrooms. Below is its graph.

Figure 19.

The Graph of the Size of Classroom and Application of MIT



The percentage of those who very highly believe is possible to apply multiple intelligences theory in the classroom is 0%. Those highly believe is possible are 26.7%.

Those who think it is not possible are 48% and those who believe it is totally impossible are 25.3% of the respondents.

4.5.11. Assessment of Students Based on the Dominant Intelligences

The total population is 300 with no missing value. The mean for Q11 is 3.05; the deviation from the sample mean is 0.662; the dispersion among the observation (variance) in this series is 0.439; the skewness which measure the degree of asymmetry in this series is -0.058 which is abnormal because a normal should be equal to zero (0), this will have long tail to the left; the kurtosis is- 0.710, this is not normal distribution because the kurtosis value is less than 3 and negative, this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 2 with 2 as the minimum and 4, maximum.

Table 21.

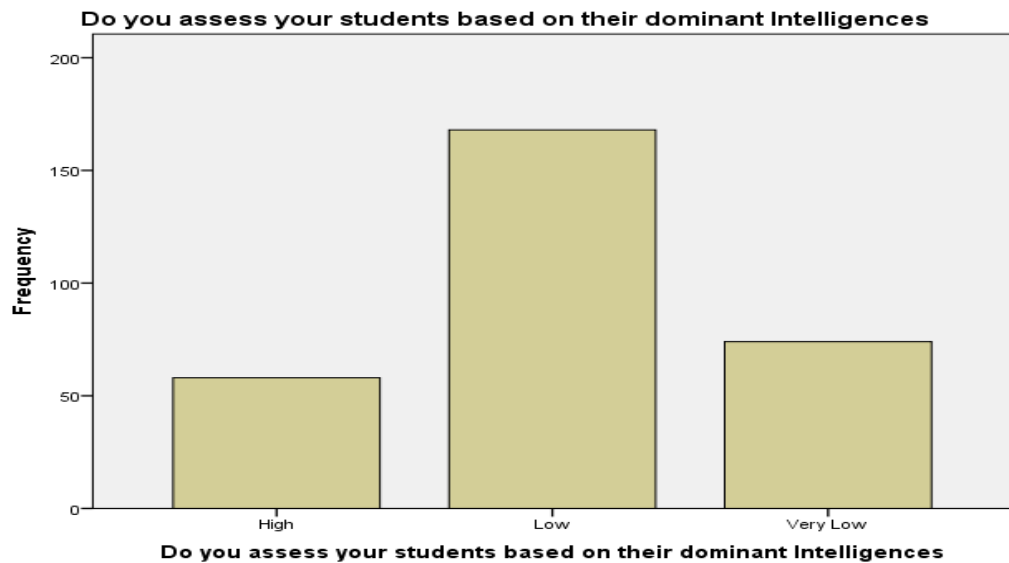
SPSS Output of Assessment of Students Based on The Dominant Intelligences

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid High	58	19.3	19.3	19.3
Low	168	56.0	56.0	75.3
Very Low	74	24.7	24.7	100.0
Total	300	100.0	100.0	

Out of 300 respondents, none confirmed that they (very highly) assess their students based on their dominant intelligences. 58 respondents showed that it is highly possible to assess the students considering their dominant intelligences. 168 respondents said it is not possible to assess the students based on the dominant intelligences. 74 teachers responded that it is highly impossible to assess the students based on their dominant intelligences. Below is a bar graph to illustrate the above statistics.

Figure 20.

Graph of Assessment of Students Based On the Dominant Intelligences



The percentage of those who assess their students based on their dominant intelligences is 19.3. Those who pointed out it is impossible to assess the students based on their dominant intelligences are 56%. Those who believe very strongly that it is not possible to assess the students based on their dominant intelligences are 24.7%.

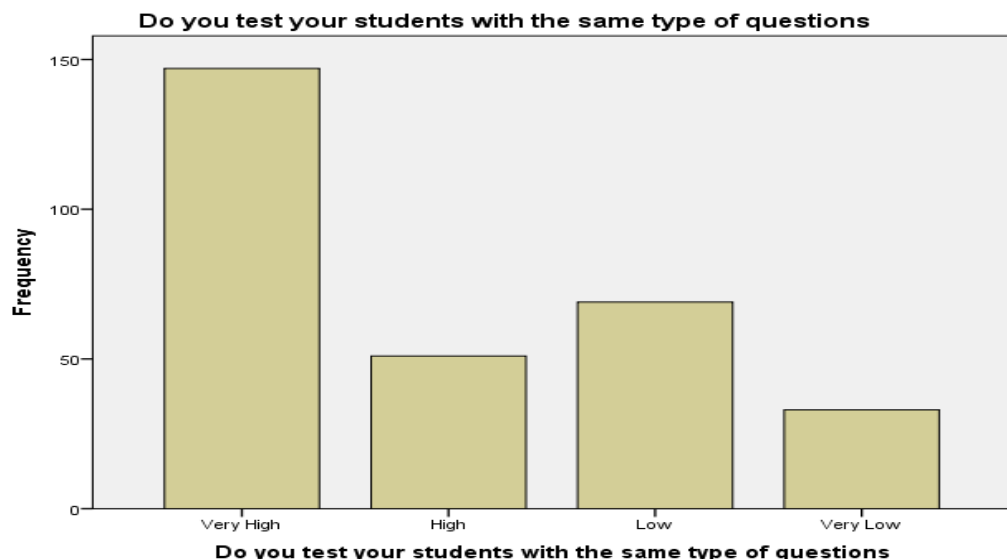
4.5.12. Examination Using Same Type of Questions

The total population is 300 with no missing value. The mean for Q12 is 1.96; the deviation from the sample mean is 1.078; the dispersion among the observation (variance) in this series is 1.162; the skewness which measures the degree of asymmetry in this series is 0.612 which is a normal because a normal should be equal to zero (0). The kurtosis is- 1.067, this is abnormal distribution because the kurtosis value is less than 3 and negative, this makes this distribution a platykurtik (lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 22.*SPSS Output of Examination Using Same Type of Questions*

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	147	49.0	49.0	49.0
High	51	17.0	17.0	66.0
Valid Low	69	23.0	23.0	89.0
Very Low	33	11.0	11.0	100.0
Total	300	100.0	100.0	

This confirms that teachers in Ghana test all students in a particular class with the same type of questions. The frequency of teachers who agreed very highly that they test their students with same questions is 147, which is 49% of the total respondents. Those highly tested with same type of questions are 51 respondents, that is 17%. Those who do not usually test with the same type of questions are 69 respondents, 23% of the respondents. Those who do not test all the students with the same questions are 33 respondents, representing 11%. Below is a graph showing the above result.

Figure 21.*Graph of Using Same Type of Questions For Examination*

This graph clearly indicates that majority of Ghanaian teachers test their students with the same kind of questions. A huge number of the teacher interviewed, thus 198 teachers representing 66% confessed that they test all their students using the same type

of question so far as the students are found in one classroom. Few of the teachers indicated that they actually do not use the same type of questions to examine their students. They claim that the students are in the same classroom but have different understanding to lessons.

4.5.13. Development of Intelligence of Unique Student

The total population is 300 with no missing value. The mean for Q13 is 1.95; the deviation from the sample mean is 1.035; the dispersion among the observation (variance) in this series is 1.071; the skewness which measures the degree of asymmetry in this series is 0.702 which is a normal because a normal should be equal to zero (0). The kurtosis is- 0.774, this is a not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 23.

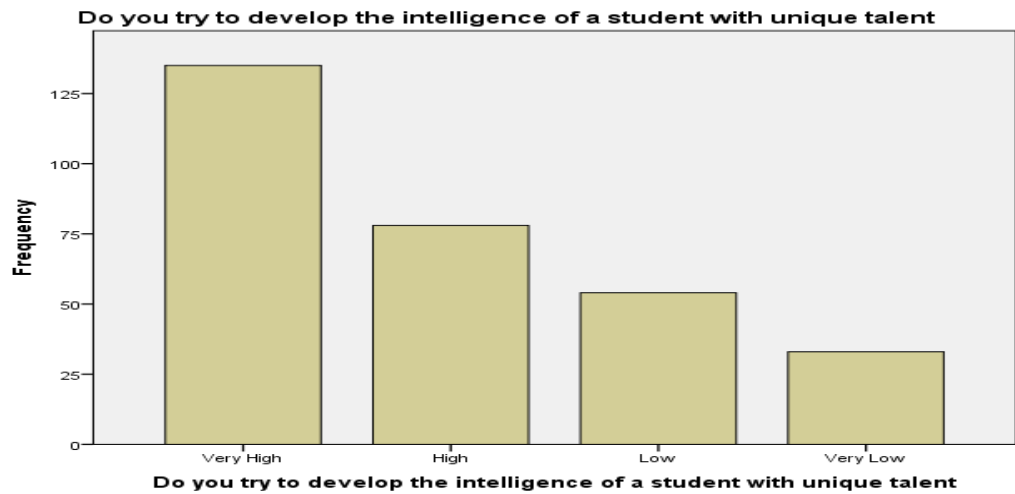
SPSS Output of Development of Intelligence of Unique Student

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	135	45.0	45.0	45.0
High	78	26.0	26.0	71.0
Valid Low	54	18.0	18.0	89.0
Very Low	33	11.0	11.0	100.0
Total	300	100.0	100.0	

Teachers in Ghana are really good in helping students with a special talent. 135(45%) of the respondents answered very highly on trying to develop the intelligence of a student with unique talent. 78(26%) of respondents highly answered yes. 54(18%) of the respondents do not usually try to develop the talent of a student with unique talent. 33(11%) said the do not try it at all. The graph below is a picture of the above situation.

Figure 22.

Graph for Development of Intelligence of Unique Student



Ghanaian teacher really appreciate students with unique or special talent. Every teacher tries to help him/her develop such talent. The graph above shows the frequencies of the respondents and the way they treat students with special talent.

4.5.14. Usage of Other Teaching Styles Apart from Logical Intelligent

The total population is 300 with no missing value. The mean for Q14 is 3.04; the deviation from the sample mean is 2.561; the dispersion among the observation (variance) in this series is 6.560; the skewness which measure the degree of asymmetry in this series is 13.722 which is a positive skewness because it has a larger value, a normal should be equal to zero (0), this will have long tail to the right; the kurtosis is-0.774, this is negative kurtosis (not normal distribution) because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 24.

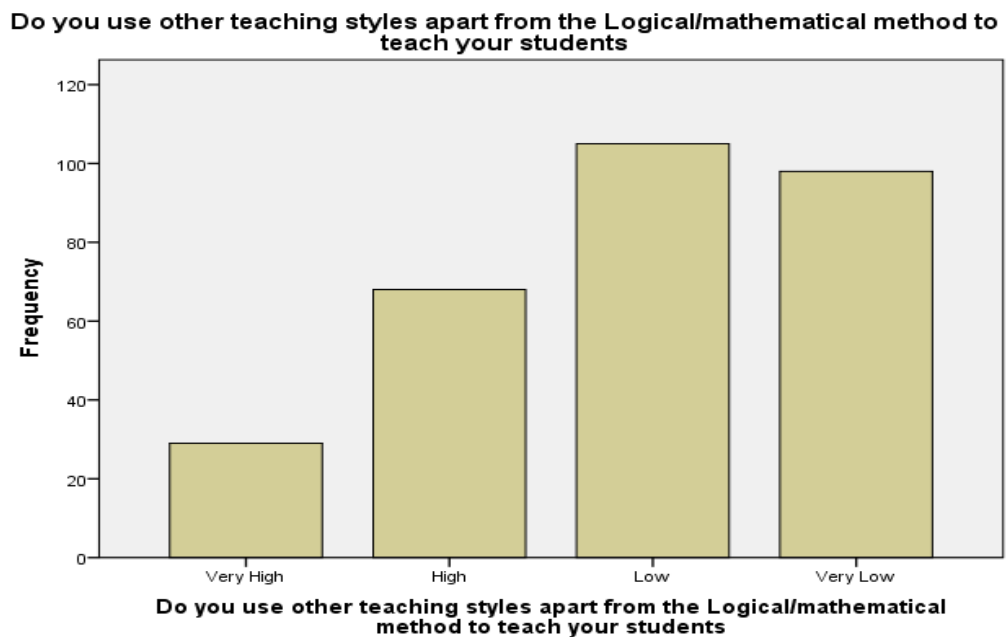
SPSS Output of the Usage of Other Teaching Styles Apart From Logical Intelligent

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	29	9.7	9.7	9.7
High	68	22.7	22.7	32.3
Low	106	35.3	35.3	67.3
Very Low	97	32.3	32.3	99.7
Total	300	100.0	100.0	100.0

Teachers in Ghana always try as much as they could to use different style of teaching to keep in touch with their students but majority of teachers stick to the old logical/mathematical method of teaching. As it is seen in the statistics above 29 (9.7%) respondents said that they very strongly try use different methods to impact knowledge to the students. 68(22.7) respondents were on the high side. Majority 106 (35.3%) were on the low side. Very low were 97(32.3%). The bar chart below clearly shows the above information.

Figure 23.

Graph of The Usage of Other Teaching Styles Apart from Logical Intelligent



This is how teachers try to teach in order to achieve their goals. Very few believe that different methods apart from the logical/mathematical style should be introduced to enhance teaching and learning. The majority of the respondents believe that logical/mathematical method has worked for a long time and it must continue.

4.5.15. Free Hand to Teach Without Strict Curriculum

The total population is 300 with no missing value. The mean for Q15 is 1.67; the deviation from the sample mean is 0.834; the dispersion among the observation (variance) in this series is 0.969; the skewness which measure the degree of asymmetry in this series is 1.023 which is positively skewed because it has a value larger than (0), a normal should be equal to zero (0), this will have long tail to the right; the kurtosis is 0.170, this is not normal distribution because the kurtosis value is less than 3 this makes this distribution a platykurtik (more lower values at the sample mean) which will give the curve a flat surface. This means that the figures in the series will be lower than its sample average. The range here is 3 with 1 as the minimum and 4, maximum.

Table 25.

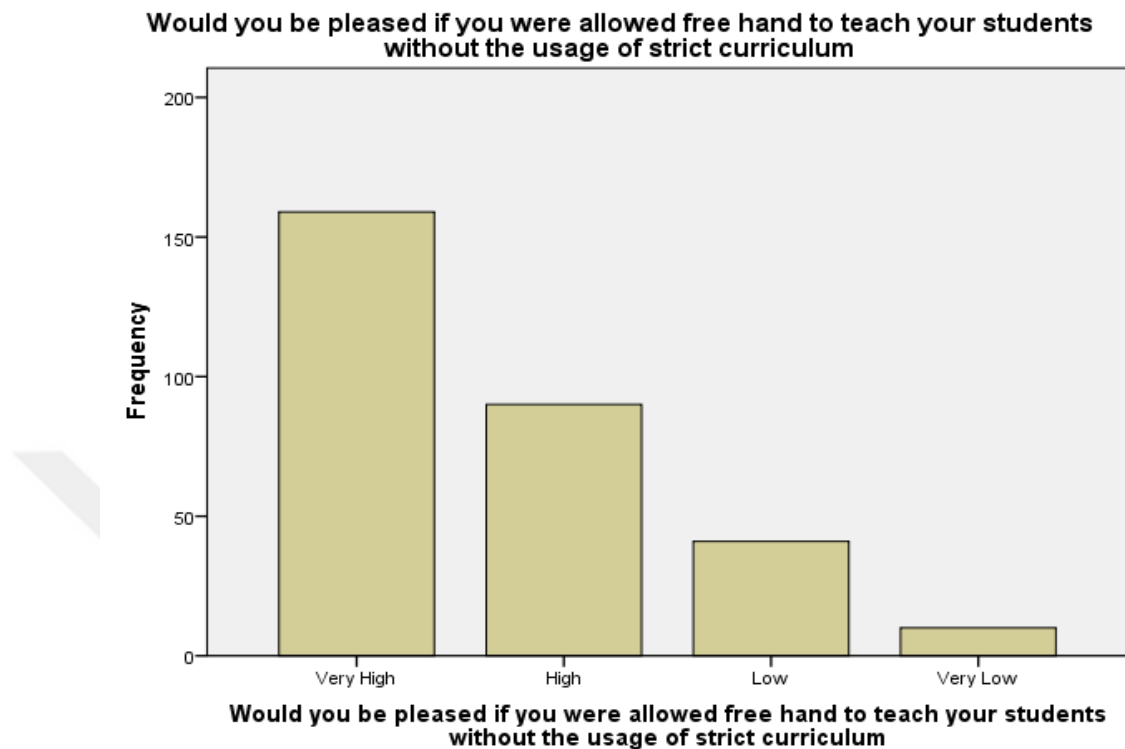
SPSS Output for Free Hand to Teach Without Strict Curriculum

	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	159	53.0	53.0	53.0
High	90	30.0	30.0	83.0
Valid Low	41	13.7	13.7	96.7
Very Low	10	3.3	3.3	100.0
Total	300	100.0	100.0	

Majority of teachers in Ghana believe that the strict curriculum they are using hinders them from teaching well. They therefore wish to be left to teach the way they could reach more students. 159(53%) of the respondents very highly want free hand without strict curriculum. 90(30%) of the respondents highly want to be given free hand to teach. 41(13.7%) were on the low side. Very low were 10(3.3%) of the respondents. The bar chart below is the vivid representation the statistics.

Figure 24.

Graph of Allowing Free Hand to Teach Without Strict Curriculum



This graph is a representation of the statistics above showing how the respondents wish to teach without the usage of strict curriculum. The strict curriculum and the time period within which a specific content must be delivered to the students make work difficult for the teachers to exhibit their abilities and skills in the quest to reach all the students in a particular classroom. The teacher is always in a hurry to finish the specific syllabus he is mandated to deliver. From the graph above very few teachers would want teach under strict curriculum, 249 respondents out of the 300 sample (thus 83%) would want to be given free hand to teach without the usage of a strict curriculum in whether to be able to reach and attend to all the students under their tutelage.

4.5.16. Variables of the Research

The research was conducted to prove the fact that Ghana education service has designed its curriculum, lesson plan, teaching plan, methods of teaching and assessment style based on only logical/mathematical method.

The variables used to ascertain whether the above hypothesis is true or not are the following categories.

1. The teachers' knowledge of Multiple Intelligences Theory.

The means of the questions from the questionnaire that test the knowledge of the teachers on multiple intelligences were picked and calculated. They are:

$$\begin{aligned}\text{Mean} &= (Q1 + Q2 + Q3)/3 \\ &= (2.89 + 3.03 + 3.18)/3 \\ &= (9.1)/3 \\ &= 3.03\end{aligned}$$

This means that averagely only 3.03 of the respondents know about the theory of multiple intelligences.

The standard deviation indicates how far or close the values in the data set are to the mean. The higher the value, the farther it is from the mean and the smaller the value of the standard deviation means that there are a lot of values closer to the mean. This makes the distribution less spread out.

$$\begin{aligned}\text{Standard deviation} &= (Q1 + Q2 + Q3)/3 \\ &= (1.038 + 0.948 + 0.758)/3 \\ &= (2.744)/3 \\ &= 0.915\end{aligned}$$

In this case, there is small amount of variability in this set because the standard deviation is small (0.915).

2. The teachers' knowledge of the dominant intelligences of their students.

$$\begin{aligned}\text{Mean of } &(Q4 + Q5 + Q6 + Q11)/4 \\ &= (3.31 + 3.29 + 3.11 + 3.05)/4 \\ &= (12.76)/4 \\ &= 3.19\end{aligned}$$

Averagely, only 3.19 of the teachers have knowledge of the dominant intelligences of their student.

$$\begin{aligned}\text{Standard deviation} &= (Q4 + Q5 + Q6 + Q11)/4 \\ &= (0.656 + 0.767 + 0.901 + 0.662)/4 \\ &= (2.986)/4 \\ &= 0.7465\end{aligned}$$

This value 0.7465 indicates that there are a lot values closer to the mean in this set.

3. To know whether lesson plan and teaching are done based on a strict curriculum.

$$\begin{aligned}\text{Mean of (Q7 + Q8)/2} \\ &= (1.87 + 2.94)/2 \\ &= (4.81)/2 \\ &= 2.405\end{aligned}$$

Here, the average of those who do not depend on the strict curriculum for planning lessons and teaching in the classroom are just 2.405, which is very small.

$$\begin{aligned}\text{Standard deviation} &= (Q7 + Q8)/2 \\ &= (1.027 + 1.039)/2 \\ &= (2.066)/2 \\ &= 1.033\end{aligned}$$

The standard deviation is 1.033 shows that there are a lot values closer to the mean since its value is not large.

4. To know whether the teachers apply the concept of multiple intelligences theory in their classrooms or not.

$$\begin{aligned}\text{Mean of (Q9 + Q10 +)/2} \\ &= (3.1 + 2.99 +)/2 \\ &= (6.09)/2 \\ &= 3.045\end{aligned}$$

This mean confirms that on average only 3.045 apply the concept of multiple intelligences theory in the classroom.

$$\begin{aligned}\text{Standard deviation} &= (Q9 + Q10 +)/2 \\ &= (0.824 + 0.722)/2 \\ &= (1.546)/2 \\ &= 0.773\end{aligned}$$

There are a lot of values around the mean because the standard deviation is very small that is 0.773.

5. To know if the teachers assess their students based on the dominant intelligences in the class.

$$\begin{aligned}\text{Mean of Q12} \\ &= 1.96\end{aligned}$$

In this section, the mean of those who assess their students based on the dominant intelligences in the classroom is very small, that is 1.96

Standard deviation = Q12

= 1.078

The standard deviation of 1.078 is not too far from the mean making the distribution closer to each other.

6. To know if the teachers try to improve the talent of a special student (talented).

Mean of Q13

= 1.95

An average of 1.95 of the respondents said they try as much as they can to improve the talent of a student with unique knowledge.

Standard deviation = Q13

= 1.035

The standard deviation is not far from the mean making small amount of variability in the set.

7. This is to know if the teachers try to use different style of teaching apart from the traditional logical/mathematical method.

Mean of Q14

=3.4

The average score of the teachers who said they try to use different style of teaching apart from the traditional logical/mathematical method is 3.4.

Standard deviation = Q14

= 2.561

Standard deviation of 2.561 is a bit higher as compared to the mean; this will make the distribution a bit farther from the average value.

8. To know if the teachers would want free to teach without the usage of a strict curriculum.

Mean of Q15

= 1.67

An average of only 1.6 teachers is those indicated that they are okay with the strict curriculum and do not want free hand to teach because they think they should be guided by the curriculum.

$$\begin{aligned}\text{Standard deviation} &= Q15 \\ &= 0.834\end{aligned}$$

The values in this set are closer to the mean since the Standard deviation of 0.834 is very small.

The hypothesis that suggests Ghanaian teachers are still using the traditional teaching method of linguistic and logical/mathematics has been proven to be true due to the results found in the survey. The results above attest to the fact that multiple intelligences theory and its application is unpopular in Ghana. We therefore fail to reject the hypothesis.

CHAPTER FIVE

V. DISCUSSION-CONCLUSION

The outcomes of the contemporary research submit that schoolchildren positioned endangered for educational disappointment significantly get good outcome from Gardner's multiple intelligence instruction approaches. The performance findings reflect those achieved in other trainings (Campbell, 1997; Hoerr, 2004; Kornbaker, 2004). For example, Campbell (1997) established that students who were able to use multiple intelligences had slight struggle learning geometric conceptions. Other investigation has formed comparable conclusions (Clements, 2001).

In the present findings, learners imparted multiplication by the use of multiple intelligences tutoring considerably augmented their posttest mathematics scores by the end of the seven-week involvement period. The strength of this verdict, generated by the conveyed effect size of 41, also suggests that the interaction effect between these two variables was vigorous. The discovery that students in the MI situation had the highest performance average on the posttest suggests the power of multiple intelligence instruction. The absence of gender or grade effects illustrates the utility of MI instruction for students of all grades.

One motive for this improved enactment is that the multiple intelligence math instruction delivered students with the prospect to use manipulative, generate diagrams and illustrations, play games, write and sing a variety of songs, and use their bodies to act out conditions and mathematical situations. Students in this condition were also given an opportunity to work with partners and in small group settings where they could segment thoughts and learn with or from each other. By integrating and building upon students' multiple intelligences-consistent with the cultural standards, these populations of students were mingled to accepting a profounder and wealthier understanding of mathematical concepts.

Most Ghanaian teachers do not have knowledge of the Theory of Multiple Intelligence. They teach strictly based on the curriculum and the syllabus given to them. They strive in their own ways to let students understand their lessons through the traditional method of logical/mathematics and linguistic teaching. There is no any effort to inculcate MI into their lessons and teaching in the classroom. Even if they know

much about it, similar problems enumerated by the teachers who know about it will apply to them thereby preventing them from applying it in the classroom.

Assessments are conducted through class test and examination at the end of each term. Those who pass the examination are promoted to the next class and those that could not perform well are made to repeat the class.

Promotional exams are conducted at the end of both JHS and SHS levels. And failure in mathematics, English language and or Science means doom for students who have intelligences in subjects either than these three

The ‘unsuccessful’ students at the Junior High Schools in Ghana usually become school dropouts because they do not have chance to re write that examination except to start from either Junior High School again. Most of parents do not allow their wards to start again because it will be time wasting to let the student labeled as poor and unsuccessful to go back to school.

The Senior High School students have the chance to re-sit for another examination to prove their ability to join the successful ones to the tertiary level.

Majority of the re-sit students fail again since they already lack intelligences in these fields. Many others do not even try to re-write because Mathematics, English language and Science are not their fields. They could do better in other fields but they are often denied the chance, because these subjects are necessary requirement to proceed to tertiary institutions in Ghana.

One of the greatest noteworthy consequences of multiple intelligence philosophy is how it has produced eight or nine distinct approaches to teaching and learning. Whenever a tutor is having challenges in reaching a student through the customary linguistic/logical mathematics way of teaching, the theory of multiple intelligence advocates numerous other styles to present the material and reach all or most of the students.

The theory is so fascinating because it enlarges the prospect of accessible instruction and learning apparatuses beyond the conservative linguistic and logical approaches used in many institutes.

Appreciative of diverse instruction methodologies from which we can study as well as a toolbox with an assortment of ways to present content to apprentices is appreciated for aggregating the convenience experience for all learners.

In an educational setting where teachers are allowed and given the sovereignty to move away from the customary ways of instructing, they will have the prospect to influence more learners more efficiently and in effect know the dominant learning intelligences and abilities of a particular class and teach towards that. This will attract the attention and interest of the students thereby making them productive, approachable and more enthusiastic to involve in the learning process.

The knowledge of the teachers based on the theory of multiple intelligences was tested through the questionnaires administered. Out of the total sample population, 70% answered that they have either (**low** or **very low**) knowledge of the theory of multiple intelligences. They were further asked if they were aware of the intelligences of their students; 79% of them answered (**very low** or **low**). They claimed that they are employed to teach and not to investigate the intelligences of the students. Teachers, by training must possess varied skills in order to be able to handle students with varied backgrounds and intelligences but the teachers I interviewed claimed they did not have much training as regards multiple intelligences theory. A huge percentage of 86% of the respondents said they did not have training on the theory of multiple intelligences during their training to becoming teachers; those who joined the teaching field from the universities were not given in-service training on the theory.

Inquiry was made to ascertain if the teachers knew the dominant intelligences of their students; 89% of the respondents confirmed that they do not know the dominant intelligences of their students. Their reasons for lack of interests in knowing the dominant intelligences of their students is that contact time is not enough to do all that; for that reason, they do not capitalize on it to plan or teach; this is evident in the survey, 86% and 80% of the respondents said they do not plan or teach respectively based on the dominant intelligences of the students. The search to know if the teachers assess their students using the dominant intelligences of the students was flattened; 81% of them said they do not consider it at all. The exams should be fair, for that matter all the students should have the same set of questions. 66% of the teachers confirmed that they test the students with the same type of questions with no exception.

The teachers indicated that they are bonded by a strict curriculum that makes it difficult to innovate into the planning of lessons. 69% of the respondents showed that

they had to follow the curriculum else they will lose their jobs. 72% of the teachers said there is no room for innovation in the curriculum due to its strict nature.

We asked to know the teaching styles of the teachers and also to find out if they use other teaching approaches apart from the traditional linguistic and logical/mathematics way of instruction. 68% of them said they have no option than to use the traditional style of teaching.

Free hand to teach without depending too much on the curriculum is one of the major desires of the teachers. 83% of the respondents confirmed that they would prefer to be given free hand to teach instead of depending solely and strictly on the curriculum. The outcome of this work confirms the assertion that Ghana is still using the traditional stereotype logical/mathematical and linguistic method of assessment to know who a brilliant student is.

Results of this survey as well as many surveys I have read to test knowledge of teachers on using different theories of teaching revealed that very few teachers have some knowledge of other approaches apart from the famous linguistic and logical approaches of teaching. The fewer populations of teachers who have knowledge of multiple intelligences could not use the knowledge in the classroom for obvious reasons such as inadequate time, large size of classes and the obligation to complete a particular syllabus at a specific period of time.

It therefore incumbent on the teacher training institution of Ghana to start incorporating the concept of the multiple intelligences into the curriculum of prospective teachers so that they can then teach their future pupils and students using the concept.

Policy formulators should ensure that the number of students in a class should not be too large, large sizes of classes are very difficult for teachers to handle and teach effectively if they were to use the conventional ways of teaching. Assessing students, monitoring and attending to the needs of each student are almost impossible in a larger size class. This is the reason why many students perform poorly.

Supervisors and head masters should allow the teacher free hand to instruct the pupils based on the approach of the multiple intelligences. This will make it possible for the teacher to reach all the students and attend to their problems. By this way the teacher

will be able to identify the strengths and weaknesses of his students and help them to succeed in their learning career.

5.1. Suggestions

After the survey, it came clear that Ghana teacher training colleges do not incorporate the theory of multiple intelligences into the curriculum of teacher trainees during their study to become teachers. Out of the 300 respondents 109 (36.3%) said they have heard something about the theory but do not have any knowledge about it. The rest of the respondents that is 101(33.7) acknowledge that they do not know and have never heard anything about the theory of multiple intelligences. In a nutshell, 70% of the teachers interviewed do not have the knowledge of multiple intelligences.

Teacher training colleges and the schools responsible for the training of teachers in Ghana should consider adding the theory of multiple intelligences into the curriculum of the teacher trainees in order to make them abreast with the theory for onward transmission to their future students. There should also be in service training for teachers at post to bring them up to speed with the theory of multiple intelligences in order for them to be able to impart it to their students.

Pre-service teachers should prepare their mindset and embark on activities that focus on different intelligences in order to reach more students in the classroom.

Teachers in Ghana do try as much as they could to use different style of teaching to keep in touch with their students but majority of the teachers stick to the old logical/mathematical method of teaching to teach their students. From the survey, 67.6% of the teachers interviewed claimed they use only logical intelligence approach to teach since that is the easier way to reach all the students.

Teaching through multiple intelligences makes the class one of the “real-world” atmosphere where all learners can be prosperous in their quest to attain future harmony. This will bring the realization of reimbursements such as energetic learners and fruitful learners. Teachers should therefore strive as much as they can to incorporate the theory of multiple intelligences into their instruction in order to make the classroom welcoming for all the students.

Traits of all the intelligences were present within all the hundred students observed in this survey. The intelligences vary within every student; some of the

students possess high portions in some of the intelligences and low in others. Every student has the prospective of improving any of the intelligences, it is up to the teacher to identify those potentials and develop them. A teacher can only harness these intelligences when he/she has the knowledge of the multiple intelligence theory. Teachers should therefore be well equipped with the knowledge of multiple intelligences in order to treat every student according to their capabilities.

All of the intelligences are of equal importance contrast to the traditional setting where strong emphasis is placed on the development of verbal and logical/mathematical intelligence. Emphasis should be given to all the known intelligences in order not to deprive a student of his capabilities and render him/her useless in their future life.

The results obtained from the observation of the pupils while they were being taught as well as the survey I took to see the trait of the intelligences in them, the levels of the intelligence and their developments showed that all the pupils have some levels of all the intelligence in diverse proportions.

It is clearly seen that the intelligences were all active and appreciating in the pupils of lower primary but as the pupils climb higher to the upper primary some of the intelligences start to lag behind. The answer for that trend is that lower primary pupils are usually allowed to explore avenues such as singing, dancing, playing games and more fields through their learning activities and schedule. Upper primary pupils do not have much time to play and explore as the lower primary pupils have. This is so because at the upper primary much concentration and attention are given to solving mathematics problems and science oriented courses thereby increasing those intelligences pertaining to calculations and language development at the expense of the other intelligences such as musical intelligence, kinesthetic intelligence and many others. Due to this phenomenon, the more a student progresses through the educational cycle some of the intelligences become stagnant and somehow disappear because they were neglected and abandoned.

The Ghanaian teachers specified that they are joined by a stringent curriculum that makes it difficult to invent into the planning of lessons. 69% of the respondents showed that they had to follow the curriculum else they will lose their jobs. 72% of the teachers said there is no room for innovation in the curriculum due to its strict nature.

Educator and policy formulator as well as curriculum designers should endeavor to include all the aspects of intelligences in the Ghanaian syllabus and curriculum at all level of educational stage because presence of some intelligence in an individual aid and enhance the development of other intelligence.

A large number of people of Ghana had their profession by chance. For example, almost all the musician in Ghana got their music occupations not because they went through special tuition to acquire the skills of singing but through their own effort and instincts that they can sing to entertain people. The focus of our institutions is on training the individual for the unavailable white color job such as office job to the neglect of artisanship which could have brought out the hiding talent in people which could have been the occupation that provide them their sustenance.

The above scenario is not only predominant in Ghana but all the African countries. This is the main reason why mass numbers of Africans travel to European countries in search of greener pastures. African governments should therefore invest more resources into artisanship and make it attractive for students to venture in for their future gains as well as retain the man power every nation needs for development.

A huge number of the teacher interviewed, thus 198 teachers representing 66% confessed that they test all their students using the same type of questions so far as the students are found in one classroom. Assessments of students should be administered in accordance to their abilities and floors. That means that students should be categorized according to their abilities and inabilities so to have a better view of their progress.

Free hand to teach without depending too much on the curriculum is one of the major desires of the teachers. 83% of the respondents confirmed that they would prefer to be given free hand to teach instead of depending solely and strictly on the curriculum. There should therefore be way of allowing the teacher a free hand to instruct the students without the usage of stringent curriculum.

All the surveys conducted in American and European schools to investigate the usage of the approach of multiple intelligences in planning lessons as well teaching in the classroom proved to be a successful venture.

A typical example is the work of Bruce Campbell, he stated that during the 1989 to 1990 academic year, a survey project was conducted in a class to assess the effects of

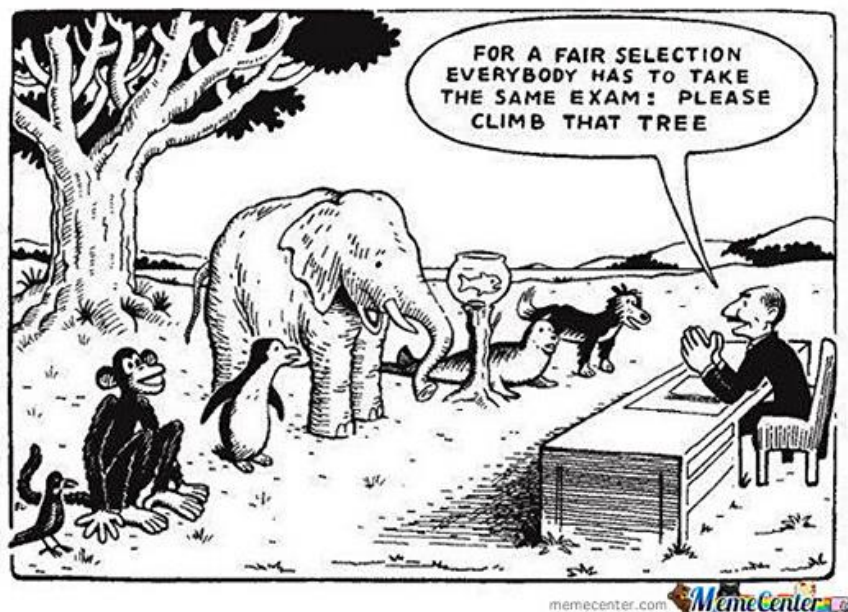
the approach of multiple intelligence as compared to another class using the conventional system.

“At the end of the survey, it was obvious that student learning improved. Student became happy for the improvement they saw in themselves. New abilities of students manifested as a result of the process they were taken through. Some students’ leadership skills manifested. Students started relying on themselves, self-confidence was apparent in almost all the students. Responsibility and independence of students was finally developed (Copyright © 1979 - 2020 by Context Institute)”.

This picture below best captures the style of teaching, learning, assessment and testing of the Ghanaian student. It is seen to be fair but in actual fact it is the most unfair and cruel form of educational system.

Figure 25.

The Similitude of the Educational System of Ghana



Picture Credit. Meme Centre for educational assessment.

The British who introduced this system of education to Ghana has stopped using it as a sole measure to knowing the abilities and the capabilities of their students; they give importance to the abilities of each student. They treat every student as an individual and attend to the needs of each student; it is therefore incumbent on Ghana to stop using it; instead, use the modern methods of assessment (Multiple Intelligence Theory) in order to appreciate the talents and capabilities of all students for a brighter future.

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APPENDIX

Appendix 1. Acceptance letter to conduct the survey at Al-Azhariya Islamic School

مدرسة الأزهرية



**THE AL - AZHARIYA SCHOOL
FOR ISLAMIC IDEOLOGY**
OLD TAFO KUMASI
GHANA (P.O. Box 20)
Reg. No: PA-13-81: AR/P112

**المدرسة الأزهرية
للتقافة الإسلامية
بعولد تافوا كوماسي
غانا (ص.ب ٢٠)
رقم التسجيل ب ١٤ / ١٣ / ٨١ أ د / ب / ١٢**

Ref. No.
Date 21/10/2019

TO WHOM IT MAY CONCERN

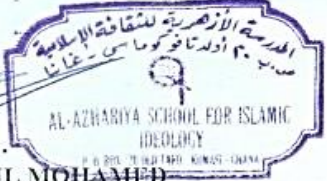
REPORT ON MR. MUSAIH IBRAHIM MUNAH

The management of al Azhariya Islamic school has accepted MR MUSAIH MUNAH, an MA student of the institute of educational sciences at FIRAT UNVISERTY, TURKEY; to conduct the practical work for his MA thesis at AL-AZHARIYA ISLAMIC SCHOOL.

He has been granted permission to commence his practical work after thorough scrutiny and evaluation of his questionnaire.

Yours faithfully,


**SHEIKH MOHAMMED KAMIL MOHAMED
(DIRECTOR)**



Appendix 2. Questionnaire to Access the Multiple Intelligence Knowledge of Teachers

Questionnaire to evaluate the knowledge of some teachers on the Gardner's Multiple Intelligence Theory and its usage in the classroom.

Every answer will be treated as confidential as possible; it is only for educational purposes.

The scale used is; 1. Very High. 2. High. 3. Low. 4. Very Low.

What is your educational level?

A. University

B. Polytechnic (Technical University)

C. Training collage

	Select the appropriate answer	V. High	High	Low	V. Low
1.	How is your knowledge of Multiple Intelligences Theory?	1	2	3	4
2.	How is your awareness of the intelligences of your students?	1	2	3	4
3.	How is your training on Multiple Intelligences?	1	2	3	4
4.	Do you know the dominant Intelligence of your class?	1	2	3	4
5.	Do you capitalize on the dominant intelligences in your class to plan your lessons?	1	2	3	4
6.	Do you capitalize on the dominant intelligent in your class to teach your student?	1	2	3	4
7.	How do you plan your lessons? Is it based on a curriculum that must be completed within specific time?	1	2	3	4
8.	Does the curriculum give room for innovation?	1	2	3	4
9.	Is there possibility to apply Multiple Intelligences Theory in your classroom?	1	2	3	4
10.	Would the size of your class allow you to apply Multiple Intelligences Theory in your classroom?	1	2	3	4
11.	Do you assess your students based on their dominant Intelligences	1	2	3	4
12.	Do you test your students with the same type of questions?	1	2	3	4
13.	Do you try to develop the intelligence of a student with unique talent?	1	2	3	4
14.	Do you use other teaching styles apart from the Logical/mathematical method to teach your students?	1	2	3	4
15.	Would you be pleased if you were allowed free hand to teach your students without the usage of a strict curriculum?	1	2	3	4

Appendix 3. Multiple Intelligences survey adopted from Murray's Thinking and Learning CAGS Course Acts F10. WWW.NSTANEWS. Used to ascertain the existence of multiple intelligences within the pupils.

FIGURE 1 Multiple intelligences survey

Points: 5 = very high, 4 = above average, 3 = average, 2 = below average, 1 = very low

Naturalistic intelligence Total: _____
 _____ I like to spend as much time as possible outdoors.
 _____ I am curious what happens to the natural world.
 _____ I like to be around plants and flowers.
 _____ I am very concerned about environmental issues.
 _____ I am interested in learning about animals.
 _____ I enjoy watching the Discovery Channel.

Spatial intelligence Total: _____
 _____ It is natural for me to "see pictures in my head."
 _____ I hardly ever forget the faces of people I meet.
 _____ I enjoy doing jigsaw puzzles.
 _____ I pay close attention to space and color in artwork.
 _____ I find places without detailed directions.
 _____ I am very interested in at least one of the visual arts (drawing, painting, photography, pottery, etc.)

Logical-mathematical intelligence Total: _____
 _____ I enjoy playing strategy games like bridge, Risk, and chess.
 _____ I solve simple math problems in my head.
 _____ I like math courses better than literature courses.
 _____ I tackle projects in a step-by-step manner.
 _____ I would like to work in a scientific or technical field.
 _____ I try to find logical explanations for what occurs.

Bodily-kinesthetic intelligence Total: _____
 _____ I like "hands-on" activities or exhibits.
 _____ I exercise or play one sport on a regular basis.
 _____ My best ideas come when I am moving around (walking, running, etc.)
 _____ I am well coordinated.
 _____ In conversation, I often use my hands or demonstrate a point with bodily action.
 _____ I get very restless if I have to sit in one place more than a half hour.

Linguistic intelligence Total: _____
 _____ I love to read.
 _____ When I talk to people, I refer to things I have read.
 _____ I enjoy playing word games such as Scrabble.
 _____ I get compliments on the way I write.
 _____ Listening to a lecture, I try to write everything down.
 _____ I like literature courses better than math courses.

Musical intelligence Total: _____
 _____ I can carry a tune.
 _____ I sing or play at least one musical instrument well.
 _____ I enjoy listening to music.
 _____ I frequently hum to myself.
 _____ I am aware when something is off-key.
 _____ I can recognize important works of major composers.

Interpersonal intelligence Total: _____
 _____ I am complimented for having "a way with people."
 _____ People like to talk over their problems with me.
 _____ When working with a group, I am sensitive to who is and who is not participating.
 _____ I like sharing or explaining information to other people.
 _____ I learn more from live interaction with people than from reading on my own.
 _____ I am frequently asked to be a group chairman or leader.

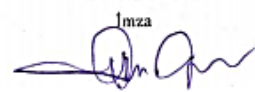
Intrapersonal intelligence Total: _____
 _____ I love time to be by myself with my own thoughts.
 _____ I can usually figure out why I behave in a certain way.
 _____ I like stories that explain a character's psychology.
 _____ I find it easy to write about myself personally.
 _____ I enjoy "self-help" books and workshops.
 _____ I do not mind being by myself.

Note: Give yourself 5 extra points in any category in which you feel highly talented.

Scores of 27 or above mean highly developed intelligences. Scores of 13 or below mean underutilized intelligences.

FROM CONTEMPORARY THINKING AND LEARNING, C.A.G.S. COURSE AGS 710, BY A. MURRAY, 1999, SALEM STATE COLLEGE, SALEM, MA.

Appendix 4. Originality of Report

		FEN BİLİMLERİ ENSTİTÜSÜ 1983		T.C. FIRAT ÜNİVERSİTESİ EĞİTİM BİLİMLERİ ENSTİTÜSÜ LİSANSÜSTÜ TEZ BENZERLİK RAPORU		FORM 44	
I - ÖĞRENCİ BİLGİLERİ							
Adı ve Soyadı		Musah İbrahim MÜNAH			Öğrenci No: 172401109		
Bilim Dalı		E.P.Ö.					
Programı		☒ Yüksek Lisans ☐ Doktora ☐ Bütünleşik Doktora					
II - TEZ BİLGİLERİ							
Tez Başlığı (Enstitü Tescilli)		Application Of Multiple Intelligences Theory In The Ghanaian Classroom					
Danışman		Doç. Dr. Hilal KAZU					
II. Danışman							
III - ENSTİTÜ BENZERLİK RAPORU							
Yukarıda bilgileri verilen öğrencimizin tezi, CD ortamında MSWORD ve PDF formatında vermiş olduğu kopyaları kullanılarak aşağıda belirtilen filtreler uygulanmak suretiyle TURNİTİN intihal tespit programında analiz edilmiştir:							
1. Kaynaklar bölümü hariç 2. Özet ve abstract dahil, diğer ön bölümler hariç 3. Alıntılar dahil 4. Benzerlik oranı %1 ve üzeri ise dahil							
İntihal tespit programının ürettiği rapora göre ilgili tezin benzerlik oranı							
Tez savunma sınavından önce taranan sayfa sayısı (104)				%23			
Tez Savunma Sınavından sonra taranan sayfa sayısı (89)				%20			
değerlerine sahip olup Enstitümüzce uygulanan kabul edilebilir üst sınır %25 dir.							
Kontrol Personeli Celal YILMAZ Bilgisayar İşletmeni		Tez, veri tabanına saklanmıştır ☐ Saklanmamıştır ☐		05/08/2020 İmza 			
Sınav Jüri Üyesi (Unvanı, Adı ve Soyadı)		Düşünce:				İmza	
AÇIKLAMA							
1. Form öğrenci tarafından bilgisayar ortamında doldurulur ve üst yazı ekinde savunma sınavı jüri üyelerine gönderilir. 2. Her bir jüri üyesi bu raporu dikkate alarak Tez Bireysel Değerlendirme Formunda ve bu formda ilgili alanları doldurmaktadır.							
Firat Üniversitesi, Eğitim Bilimleri Enstitüsü, 23119 - Elazığ / TÜRKİYE		http://ebe.firat.edu.tr/		Telefon : +90 424 237 0086 Fax: +90 424 237 0087 e-posta : egtbilens@firat.edu.tr			

CURRICULUM VITAE (CV)

Musah Ibrahim Munah

My expertise lies in the provision of an effective and efficient support services for higher productivity. Modern Organization requires a smart worker with a lot of initiative to support a busy Executive through the provision of up to date information. Over the years I have demonstrated this ability at Al-Azhariya Islamic School, Kumasi Metropolitan Assembly and all the other places that I have worked.

1. PERSONAL BACKGROUND

First name : Musah Ibrahim
Surname : MUNAH
Date of birth : 13th July, 1977
Place of birth : Old-Tafo Kumasi
Nationality : Ghanaian
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Email : musahmunah@gmail.com
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Tel : +905387349923/+233242571073

2. EDUCATION AND QULIFICATION

A. 2018 up to date.

Master student (Educational Science), Firat University

B. 2017

Post graduate diploma in pedagogic formation, Firat University, Elazig Turkey

C. 2009- 2015

Bachelor of Science in Stats and Actuarial Science KNUST

D. 1999-2002:

Higher National Diploma (HND) Statistics. Kumasi Polytechnic (Kumasi Technical University).

E. 1995-1997

S.S.S.C.E Simms Sec/Comm. College Kumasi

F. 1993-1995

B.E.C.E Al-Azhariya J.S.S Kumasi

3. WORKING EXPERIENCE:

A. 2005-2007. Headmaster Al-Azhariya Senior high Kumasi.

B. 2005-2007. Tutor; Al-Azhariya Islamic Senior High School,

C. June 2004. Teacher Ghana Education Service.

D. 2002-2003. Department of Biostatistics Tafo Government Hospital Kumasi-
Post HND National Service

E. July 2002. Industrial Attachment- Konfo Anokye Teaching Hospital Kumasi.

F. 1999-. Interim Accountant Al-Azhariya Islamic School – Kumasi

G. 1997-1999. Arabic Teacher at Al-Azhariya Islamic School

4. LEADERSHIP POSITION HELD:

A. 2009 to 2013. Chairman- Tafo Sub-Metropolitan Council- Kumasi

B. 2006 to 2014. Assemblyman for Tafo Adompom Electoral Area, Kumasi
Metropolitan Assembly

C. 2011-2013. Member, Finance and Administration Committee, KMA

D. 2011-2013. Member, Public Relation and Complaints Sub-Committee, KMA

E. 2006-2010. Member, Development Planning Sub-Committee K.M.A

F. 2006-2010. Member, Transport Sub-Committee K.M.A

G. 2006-2010. Member, Finance and Administration Sub-Committee K.M.A

H. 2006-2010. Member, Education Sub-Committee K.M.A

I. 2014. deputy PRO Old Tafo development committee

5. SPECIAL ABILITY

Work with little or no supervision and a team player.

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Administrator

Tafo Sub-Metropolitan Council

K.M.A

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