CHAPTER ONE

INTRODUCTION

1.1 Overview

The chapter presents the background, statement of the problem, purpose of the study, objectives and research questions that directed the study, significance of the study. This is followed by delimitations and limitations of the study, operational definitions of terms used in the study, and the theoretical framework. It ends with a summary of the chapter.

1.2 Background

Over the years until the twenty first century, the controversy existed among researchers, theorists, teachers and parents as to which instructional approach was more suitable for enhancing the teaching of students with multiple intelligences. Among the approaches that are being considered as ideal today are the traditional teaching methods and the multiple intelligences approaches to learning. This was still causing conflicting views among many educators such that traditional approach of teaching was still considered the preferred methodology as compared to multiple intelligences. Even though teachers were still of the view that traditional approach to teaching and learning process was more effective than the multiple intelligences instructional approach, there are also some teachers who are not aware of the relevance of the multiple intelligences instructional styles of approach as it relates to learners' academic performance. Gardner (2004) posited that if children are not learning any concept from the way you are teaching, you must then teach them in the way they would learn better.

Gardner (1983) was of the view that, traditional ideas about intelligences employed in educational and psychological circles required significant reformation. Using this form of instructional styles of teaching at times encouraged students to lose focus since what is being taught does not cater for their needs**.** Armstrong (2000) contended that a teacher's professional knowledge is a key ingredient in his or her success with students. It must be noted that integration of multiple intelligences in instructional styles of teaching addresses the diverse needs of children irrespective of their background. Facilitators of learning would only be able to

impact positively on the learning outcome when they are fully aware of students' diverse needs. Therefore, teachers need to be kept abreast with the diverse needs that students have and strategically organize the learning experiences based on the existing needs. The application of the theory of multiple intelligences tend to emphasise on the process of learning rather than teaching.

Gardner (1983) contended that multiple intelligences addressed children's interpersonal, intrapersonal, logical-mathematical, bodily-kinesthetic, linguistic, musical, naturalistic, and spatial abilities. Students who are exposed to such instructional design would be able to interact with peers, displayed social stability, understood their strengths and weaknesses, reasoned logically, critically analyzed complex situations, and were able to solve problems. On the other hand, some learners learn more in practical situations than theoretical scenarios. They become demonstrative learners whose hands-on approach to learning is more meaningful and helpful to them than paying attention to theories and imaginative stories. However, those who are linguistically developed would be able to communicate effectively, comprehended written manuscripts and performed well in various aspects of language. The musical inclined learners possess the ability to understand and expressed various components of music. They learn best through sounds, melodies and rhythmic patterns that were created by various musical instruments (Armstrong, 2003). This entailed that such learners are fascinated by drama, dance, and various aspects of theatre and the performing Arts. Learners who possess naturalistic and spatial abilities are definitely better able to adjust to botany and environmental situations as a result of their directional skills.

The concept of multiple intelligences is a latest teaching methodology in education, business, arts and other areas of daily life whose emphasis is on integration of multiple intelligences in instructional styles of teaching so as to re-activate hidden potential in the learners. Every person is born with a full package of capacities and aptitudes of strength although some may seem to be naturally stronger or weaker than others in each individual (Gardner, 2004). These differences do not therefore, suggest that one person is more or less intelligent than the other, but simply that each one learn, think, process, and produce concepts differently.

Integration of multiple intelligences in instructional styles of teaching was a concept introduced by Gardner (2004). He argued that, high scores in mathematics and language tests could not alone serve as a proof of human intelligence. Intelligence is beyond the scores made in standard paper, pen and pencil tests that are in most cases used to estimate success in a formal school environment. Instead, intelligence incorporates many abilities and could not be explained by a single factor alone. Gardner (2004) described multiple intelligences as the capacity of an individual to create products that are valued in one or more cultural settings, one's skill to produce effective and efficient solutions to problems in daily life and also the ability to discover new and complex problems demanding solutions. Furthermore, both Gardner and Sternberg (2004) stated that instructional styles of teaching could not be based upon a single structure. In short, the traditional principle of one-size-fits-all in instructional methodologies must at all times be discouraged if the potential of a child is to be wholly activated and realised (Saban, 2004).

Saban (2004), Checkley (1997), and Gardner (2004) all contended that, the theory of multiple intelligences was widely accepted in the recent years. Humans have different types of dominant intelligences, and each individual's intelligence consists of different combinations of intelligences at certain levels (Gardner, 2004). Therefore, individuals do not possess a single type of intelligence but different types of intelligences which finally are degenerated into multiple intelligence domains. These intelligence domains in the theory of multiple intelligences mighty vary among all individuals in terms of their types, levels and capacity of use. An Individual mighty lack one ability in a specific domain, but mighty have possessed a very strong ability in another domain. It should be noted for this reason that, all intelligence domains are important and no single intelligence is superior to other intelligences (Gardner, 2004). Therefore, it would be a very serious psychological mistake to handle different individuals equally basing on a single intelligence which in most cases is a teacher's preference.

1.3 Statement of the problem

It is evident that if students are exposed to alternative teaching methodologies (multiple intelligences) that allowed them to be actively involved especially in areas of their interest and hands on experienced activities were provided to them, that would undoubtedly create a child centered environment to learners so that learning outcome could be effectively enhanced. Le

(2001: 120) stated that: “hide not your talents for use they were made for, what is the purpose of a sun dial in a shade?” Teachers’ concentration on logical reasoning (mathematics) and linguistic (language) intelligences only into their instructional styles of teaching methodologies and with little or no attention paid to re-activation of other intelligences in order to explore potential abilities in learners, posed a serious concern to all stake holders with interest in education sector. This study therefore, sought to investigate teachers’ and learners’ views on integration of multiple intelligences in instructional styles of teaching and learning.

1.4 Purpose of the study

The study aimed at investigating teachers’ and learners’ views on integration of Multiple Intelligences in instructional styles of teaching and learning.

1.5 General objective of the study

To investigate teachers’ and learner’s views on integration of multiple intelligences in their instructional styles of teaching methodologies and learning.

1.6 Specific objectives of the study

1. To explore the level of teachers’ knowledge about multiple intelligences.
2. To investigate teachers’ views on integration of multiple intelligences in instructional styles of teaching in primary schools.
3. To establish whether teachers integrate multiple intelligences in their teaching methodologies.
4. To assess learners’ views on whether multiple intelligences, either in or outside classroom were integrated in their learning.

1.7 Research questions

1. What are the teachers’ levels of understanding of Multiple Intelligences?
2. What are the teachers’ views on integration of Multiple Intelligences in instructional styles of teaching methodologies
3. Do teachers integrate Multiple Intelligences in their teaching methodologies?
4. What are the learners’ views on the integration of multiple intelligences in their learning?

1.8 Significance of the study

The significance of this study is that, views of both teachers and learners would bring to light information of success in this new era where education is a driving force in every sector of national development. Further, the findings may help school academic boards and administrators to design appropriate teaching techniques that would incorporate multiple intelligences in teaching methodologies. Education officials and other stake holders with interest in education may also benefit from this study by way of developing a curriculum that would take into consideration all aspects of intelligences other than reading, writing and logical reasoning only.

1.9 Delimitations of the study

Delimitation of the study was the area in which the research was being conducted. This study was confined to six primary schools out of 91 primary Schools, 40 teachers out of 659, and 30 grade 6 learners out of 3,520 and 30 grade 7 learners out of 2,866 in Luwingu District of the Northern Province of Zambia.

1.10Limitations

The study focused on actual performance of teachers and learners views on the integration of multiple intelligences in the teaching methodologies without considering the views of parents, Ministry of Education, Science, and Vocational Training and Early Education officials and other stakeholders. It could have been better to also have views of other stakeholders in education. Therefore, national generalization of the findings of this study may be limited.

1.11Operational definitions

Bodily–kinesthetic intelligence: the ability to use the body language skillfully to express ideas and feelings to solve the problems, create products or present emotions.

Intelligence: Ability or a set of abilities that permits an individual to solve problems or fashion products that are of consequence in a particular cultural setting.

Interpersonal Intelligence: is the ability to be compassionate, and to understand other people's feelings and to think readily.

Intrapersonal Intelligence: is the ability for self-analysis and reflection to understand and know one-self and to be able to quietly contemplate and access one's accomplishments.

Linguistic intelligence: It is the ability to use language effectively and communicate both in speaking and writing skills.

Logical-Mathematical intelligence: is the ability to think about things in a logical systematic manner and to use numbers effectively and reasons well.

Multiple Intelligence: A set of abilities, talents or mental skills that all individuals possess to a greater or lesser extent.

Spatial intelligence: is the ability to comprehend mental models, manipulate them spatially and draw pictures rather than write a paragraph.

Musical intelligence: is the ability to recognize and use the non-verbal sounds to communicate and express feelings.

Naturalistic intelligence: is the ability to recognize and classify both the animal and plant kingdoms to make other consequential distinction in the natural world.

1.12 Theoretical framework

The study was guided by Gardner's (2004) theory of multiple intelligences which articulates that each person is born with a full package of capabilities and attitudes to develop and reach full potential in other intelligences besides mathematics and linguistic intelligences. Though some learners are naturally stronger in some subjects than other learners, It does not indicate that some learners are more or less intelligent than others, but simply that each one learns, thinks, processes and produces information differently. It further articulates that contemporary technological changes, challenge professional educators of the twenty first century to re-activate and provoke the learners' hidden potential through their different instructional skills of teaching

methodologies. Their delivery of concepts using integrated intelligences would assist students to appreciate learning in this new era of diverse technology (Gardner, 2004).

1.13Summary

This chapter focused on historical background of multiple intelligences as a teaching methodology. Over the years there has been a controversy that existed among researchers, theorists, teachers and parents as to which instructional approach was more suitable for enhancing the teaching of learners with multiple intelligences. This chapter has shown that among the approaches that are considered as ideal are the traditional teaching methods and the multiple intelligences approaches to learning. However, this was still causing conflicting views among many educators such that traditional approach of teaching was still considered the preferred methodology as compared to multiple intelligences. This is because there are some teachers who are not aware of the relevance of the multiple intelligences instructional styles of approach as it relates to learners' academic performance. This study therefore hopes to create awareness on the relevance of multiple intelligences instructional styles of teaching among teachers.Finally this chapter presented the statement of the problem, purpose of the study, the general objective of the study, specific objectives of the study, research questions, significance of the study, delimitations of the study, limitations, operational definitions of terms used in this study and the theoretical framework for the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter reviews the literature that is related to integration of multiple intelligences in the instructional styles of teaching methodologies by teachers. It brings to light definition of multiple intelligences and its theory. Further, discusses multiple intelligences in a more detailed manner in relation to how human mind works to capture concepts, multiple intelligences in the classroom, teachers' profile, and benefits of multiple intelligences. Finally, this section will conclude with a summary.

2.2 Theory of multiple intelligences

The concept of multiple intelligences being the latest teaching methodology in education sector emphasises on the integration of multiple intelligences in instructional styles of teaching so as to re-activate hidden potential in the learners. Every person is born with a full package of different capacities and aptitudes of strength. These differences do not therefore, suggest that one person is more or less intelligent than the other, but simply that each one learns, thinks, processes, and produces concepts differently (Gardner, 2004). The implication is that, there is no child who is dull or un teachable according to Gardner's argument.The theory of multiple intelligences in instructional styles of teaching, challenges teachers to notice and take into account diverse skills, abilities, talents and preferences that learners exhibit in and outside the classrooms so that teaching and learning materials are presented in ways that will lead to re-activation and recognition of multiple intelligences in learners. Gardner (1983) alludes the fact that, learners do not come into classroom with empty minds, but come with different sets of developed intelligences which would only need re-activation to its full potential. This means that each learner has his or her own unique set of intellectual strength and by implication, weaknesses also. He further posits that individuals should be encouraged to use their preferred intelligences in learning because the preferred intelligences decisively influence how a learner learns. Secondly, instructional activities should appeal to different intelligences and finally assessment of learning should measure multiple intelligences.

Gardner (2004) argues that, high scores in mathematics and language tests cannot alone serve as a proof of human intelligence. Intelligence is beyond the scores made in standard paper and pencil tests used to estimate success in schools. In addition, Gardner and Sternberg (2004) state that instructional styles of teaching cannot be based upon a single structure. The traditional principle of "one-size-fits-all" is not applicable in the twenty first century (21st century) educational system of instructional methodologies, and must at all times be discouraged if the potential of a child is to be wholly activated and realised for the better tomorrow (Saban, 2004).

The primary objective of education and educators should be the enrichment of learners to ensure meaningful outcome and lifelong learning. Failure to achieve this will undoubtedly impact negatively on the productivity of any society. Gardner (2000) argues that, literate society or nation is always destined for success, while an illiterate society or nation is slowly put on the road destined for destruction. The learning outcome of students in various educational institutions throughout the globe has been severely challenged as a result of multiple variables; notably, many learners are denied the opportunity to be engaged meaningfully in collaborative and practical experiences that will help them to develop concepts from multiple intelligences perspectives relevant to real life situations.

It is evident that some teachers adopt the transmission oriented approach to teaching while others adhere to the give-and-take oriented approach. With the integration of multiple intelligences in the instructional methodology, the researchers have decided to investigate the extent to which this new approach to learning is able to impact significantly on students' academic performance, thereby ensuring a more meaningful outcome as opposed to traditional methodologies.

Additionally, in a public broadcast on the nation television (May 2010), the Jamaican Minister of Education announced that students' performance in numeracy and literacy at the grade four levels was unsatisfactory. Therefore, this implies that work needs to be done at the foundation level of our education system. In addition, Sternberg (2000) conceived that, educators need to maximize the probability of each student's success in school; the most logical way to accomplish this outcome is to structure a diverse range of activities so that students have a chance to try

different patterns of abilities and subsequently discover their strongest abilities and master as soon as possible and apply them thereafter in society.

2.3 The human mind at work

The human mind is carefully designed**.** The brain is the major controller of the nerve centre**,** likewise the structural composition of the joints and muscles allow movements to occur**.** Movements provide the foundation for learning. Growing children therefore, have the natural tendency to explore experiment and develop new insight as they experience different environments. For learning to occur, new information must be in-built within an adolescent's neural network. The process by which such instillation occurs is believed to be through movements. Children possess specific intelligences that are bio-psychological in nature. These intelligences exist in context of other abilities or knowledge (Gardner, 1983). It is important therefore, that educators incorporate activities that challenge the potential of learners in their early childhood of education as the comprehension, retrieval and cognitive levels at this stage are very high.

Hannaford (1995) & Myeres (1996) further concurred that as the sensory fibers are recruited during movements, they carry impulses from the muscles to the brain through movements and the instillation process occurs. The more muscles that are activated while learning new information, the stronger these in-built pieces of information will become. In view of this the more muscle groups and fibers that are activated during sensory motor activities and the more they are integrated with subject matter concepts, the stronger and more concrete the learning process becomes. It is therefore, the researcher's belief that if students are exposed to alternative teaching methods that allow them to be actively involved and their intelligences provoked especially in areas of their interest in their early education and childhood, they will be stimulated.

Gardner (1983) strongly supports that the multiple intelligences instructional teaching creates the opportunity for children to participate in decisions making pertaining to their learning. It is believed that when hands on experiences are provided creating a child centered environment, learning outcome will be enhanced. This idea is substantiated by Myeres (1996) as indicated by

E.M Hall in his article on "integration and kids learning". Participation in bodily kinesthetic activities builds cooperation, improves emotional stability and enhances team spirit. This, according to Gardner (1983), embraces the interpersonal and intrapersonal tenets of the multiple intelligence academic frameworks.

Armstrong (2003) posited that, the ability to control one's bodily motions and the capacity to handle objects skillfully are indication of bodily kinesthetic intelligence, craftsmen actors, dancers, sculptor and athletes fall appropriately in this category. It is absolutely necessary that children participate in diverse activities so as to alleviate tiresomeness or stress. High level of stress activates the adrenal gland to release chemical substances, one of which is cortisol. The presence of cortisol enables the brain to be less capable of planning, judging, engages in problem solving and completing other higher order thinking activities (Jensen 2000; Leamnson 2000). Teele (2000) also postulates that all the intelligences can be developed fully when positive educational and environmental circumstances exist. The researcher concurred with the assertion that a suitable climate that is conducive to learning will help to maximize learners' learning the process.

Education, being the key to many individuals and group achievements, plays a vital role in social and scientific achievements of individuals' development. Plato (cited in Shore, 2001: 1) in his proverb stated the following warning: *"Do not then train youth to learning by force and harshness, but direct them to it by what amuses their minds so that you may be better able to discover with accuracy the peculiar bent of the genius of each"*. Gardner (2004) further stated that educational methods should be adjustable and be flexible to cater for the students who have different intellectual capabilities, and should be re-designed and re-arranged in line with effective multiple intelligences that would benefit students, teachers and society at large. This then, is real learning (Vygotsky, 1978).

As noted above, Chapman and Freeman (1996) draw three implications that are useful for this study. Firstly, intelligence can be taught through teaching. Secondly, intelligence changes throughout life time. Thirdly, the existence of different intelligences that different learners possess results in different learning styles and different needs. Hence, Chapman (1993) points

out several implications of Gardner's theory of multiple intelligences which are relevant for the contemporary and middle level educators; firstly, everyone has at least one intelligence of strength, secondly, everyone has some weaker intelligence that can cause some discomfort, thirdly, weakness can be strengthened moving from an area of discomfort to comfort zone and finally one brain is as unique as fingerprint implying that, assimilation of concepts is done differently by different learners. For this reason, Gardner (2004) states that, during a learning period, all intelligences are supposed to be integrated in order to function productively in society and in life even after school.

2.4 Multiple intelligences

Gardner (2004) states different types of intelligences that are found in learners as follows:

a) Linguistic intelligence

The ability to use language effectively and communicate both in speaking and writing skills. These learners like reading books and do well in English classes (Gardner, 1993; Chapman, 1993). Such people often become language teachers, interpreters, editors, radio or television announcers, reporters and librarians.

b) Logical-Mathematical intelligence

The ability to think about things in a logical systematic manner and to use numbers effectively and reasons well. People who prefer to use this intelligence usually do very well on standardized comprehension within written tests. They like solving abstract problems. Strong Logical-Mathematical intelligent people become scientists, mathematicians, computer analysts, economists, accountants, statisticians and science teachers in future (Gardner, 2000).

c) Spatial intelligence

The ability to comprehend mental models, manipulate them spatially and draw pictures rather than write a paragraph. These learners notice colours, shapes, patterns and how light falls on objects. In most cases, such individuals choose careers as painters, engineers, architects, graphic artists, mechanics, photographers, pilots decorators and so on (Chapman,1993).

d) Musical intelligence

The ability to recognize and use the non-verbal sounds: pitch, rhythms, and total patterns and usually hear music in their heads and learn songs quickly. People with a strong musical intelligence often choose careers as musicians, music therapists, song writers, music teachers, piano tuners, and studio engineers and so on (Gardner,1993).

e) Bodily–kinesthetic intelligence

The ability to use the body skillfully to express ideas and feelings to solve the problems, create products or present emotions. People with the preference of this kind of intelligence generally have skills such as physical exercises, dancing, swimming, jogging, walking etc.Athletes, dancers, actors, models mimes and so on come from this category of intelligence (Gardner, 2000).

f) Interpersonal intelligence

The ability to be compassionate, and to understand other people's feelings and to think readily. People with high preference of this Intelligence always have a talent for understanding other people's feelings, thought, motivations, moods, needs and their struggles. They comfort, manipulate and persuade people. These people usually become sales people, lawyers, politicians, business executives, travel agents, social workers, psychologists, religious leaders and school principals (Gardner, 2000).

g) Intrapersonal intelligence

The ability for self-analysis and reflection to understand and know one-self and to be able to quietly contemplate and access one's accomplishments. People with preference for intrapersonal Intelligence like to ponder on questions such as "who am I?'' What is the purpose of life?'' "What is the meaning of my dream?'' and so on. Their go is to understand themselves. Perhaps they feel most peaceful and self-aware when they are walking alone in nature. With this kind of intelligence, they often become therapists, writers and religious leaders (Gardner, 2000).

h) Naturalistic intelligence is the ability to recognize and classify both the animal and plant kingdoms to make other consequential distinction in the natural world and to use this ability

productively. These are often farmers, botanists, conservationists, environmentalist and biologists (Gardner, 2000).

i) Existential and spiritual Intelligences

According to Gardner (2000) are latest intelligences and Gardner has not paid much attention to them. They are concerned with questions regarding the human conditions such as the meaning of life, death and love.

The concept of multiple intelligence technique as shown above can help students and teachers develop a deeper understanding of their abilities. It demonstrates to students how they can use their strengths and address their weaknesses. It boosts self-esteem and encourages risk-taking. It motivates students to learn more and to learn deeply. In the classroom, Gardner (2000) recommended that integrated instructional style of teaching in education would use students' natural talents successfully**.** For example, students with spatial intelligence could understand lessons more quickly by looking at visual images rather than reading pages from the text books. Students with good interpersonal intelligence would learn better in a group discussion instead of reading books alone. Some students might learn new words more easily by listening to songs. The student who is almost falling asleep during logical presentation may become alive when the bodily-kinesthetic approach starts. This is in line with Le (2001) who posits that teaching methods and curriculum should be developed flexibly and interdependently. So, integrated instructional methodologies would allow teachers to be more creative and flexible in preparing the teaching materials and presenting the lesson in class. Teachers would learn more about their students and adjust their methodologies after a couple of class meetings. If students learn well at school and gain more knowledge, they would then know how to set their career to match with their abilities and talents in future.

2.5 Teacher's intelligence profile

The first step in using the multiple intelligence theory in teaching is for teachers to start identifying their own intelligence profiles so that they can determine their best or preferred teaching strategies taking into account different abilities in learners (Christon, 1998). After all, it is probable that the learning activities that a teacher uses will often reflect his or her own

intelligence profile. This in turn will presumably mean that some students will be more familiar than others to these teaching strategies and resources used. Teachers for instance may avoid drawing pictures on the chalk-board or stay away from using highly graphic presentations because their spatial intelligence is not particularly well developed in their life or it is possible that a teacher falls towards cooperative learning strategies because he/she is an interpersonal sort of a person. On the contrary, students can sometimes come up with strategies and demonstrate expertise in the areas where teachers may be deficient. Further, learners may provide a musical background for learning activities or may do some practices by drawing on the board. If the teachers do not feel comfortable with this approach it may be because they have a low preference for the underlying intelligences being used. Hence, a teacher can try to use instructional styles of multiple intelligences theory to survey his/her teaching strategy and see how it matches up with different intelligences found in learners (Armstrong, 2000).

Christon (1998) alludes that the more awareness the learners have of their own intelligence profile, the more they are able to utilize this knowledge in their future learning. Therefore, Christon (1998) states that an important stage of teaching with multiple intelligences is to awaken the intelligences of students through exercises and activities that make use of sensory bases (the five senses) in a classroom situation. Then the teacher can extend the preferences of using more intelligence by encouraging students to practice them which may trigger the transfer of the intelligences to students' daily lives by asking reflective questions which also focus on the multiple intelligences.

Gardner's theory of multiple intelligences is a diverse conception of intelligence that offers teachers a common sense frame work in which to explore their beliefs about learning abilities as well as opportunities to make decisions about how they should structure learning experiences and examine their own strengths and weaknesses and realize on how these would impact on what they do in classrooms. Multiple intelligence theory is therefore, a valuable approach for exploring teaching and learning styles, developing curriculum and improving assessment literacy. Moreover, it is demonstrated that children perform differently on activities that require the use of different intelligences. This suggests that learners have strengths and weaknesses in different areas with distinct and variety intelligence profiles.

2.6 Learners' profile

As teachers are observing and listening to children closely, they have the opportunity to document and describe children's profiles of strengths and how they learn best (Gardner, 1991). Profiles of each child can be used as a resource that shows the child's predominant multiple intelligences and also shows the child's lesser used intelligences. Children possess several propensities for learning and through keen observations, teachers and educators should be able to recognize that children use certain intelligences to solve problems. The intelligence that the child may use has the possibility to change as the problem solving activity changes. According to Gardner (1991), these profiles may offer specific recommendations about what might be done at home, in school, or in the wider community to build on strengths as well as to reinforce areas of relative weakness. These profiles will help future teachers and educators promote individualization of each child's learning in the classroom. Children will be able to use their predominant multiple intelligences and cherish their lesser used intelligences.

2.7 Multiple intelligence in the classroom

Accepting Gardner's theory, multiple intelligence has several implications for teachers in terms of classroom instructional styles of teaching. Since all intelligences are needed, teachers should think of all intelligences to be equally important across the groups of learners they are teaching. Within a group, some learners will have a preference for using some intelligence while other learners would wish to use different ones as stated above. This is contrary to traditional educational system which typically place strong emphasis on development and use of verbal and mathematical intelligence. Thus, the theory of multiple intelligences implies that educators should integrate multiple intelligences in instructional style of teaching and teach to a broader range of talents and skills that depend on a variety of intelligences in order to cater for all learners in the classroom. No child should be left behind (Sternberg, 2000).

2.8 Summary

The benefits of multiple intelligence teaching are many. Multiple Intelligence theory provides a way for all teachers to reflect upon their best teaching methods and to figure out the reasons why some methodologies work well for some students and not for others. It can also help teachers to expand their current teaching strategies to include a broader range of instructional techniques,

materials, and methods for reaching a wider range of learners; if some students may have not responded well, then their preferred intelligences were not stimulated by the teaching approach used. There is no one who is unteachable, what matters is the instructional approach which should meet every learner (Armstrong, 2000; Lin, 2000).

Gardner's theory of multiple intelligences provides a theoretical foundation for recognizing the different abilities and talents of learners. His theory acknowledges that while all learners may not be verbally or mathematically gifted, learners may possess a great deal of expertise in other areas such as music, spatial relations, moral sense, and interpersonal skills. A methodology that is based on the theory of multiple intelligences should approach the assessment of learning in a manner that allows a wider range of learners successfully to participate in classroom learning.

Finally, since understanding can also be demonstrated in more than one way, this multiple intelligence approach has opened up the possibility for learners to display their new understandings as well as their continuity difficulties in ways that are comfortable for them to reveal and that are also accessible to the scrutiny of others. Performance based assessment is one of the most valuable tools for encouraging learners to use their multiple intelligences. There is therefore need to find out which of the two teaching methodologies between traditional and multiple intelligence approach is best for the teachers and learners.

CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter outlines the methodology that was used in this study. It constitutes the following: research design, target population, sample size, sampling techniques, research instruments, data collection procedure, data analysis, pilot study and ethical considerations.

3.2 Research design

Ghosh (2003) defines a research design as a plan of the proposed research work. It represents a concession dictated by mainly practical considerations. He further points out that 'a research design is not a highly specific plan to be followed without deviation, but rather a series of guide posts to keep one headed in the right direction'.

A descriptive survey design was used in conducting this research. A survey usually involves collecting data by interviewing a sample of people selected to accurately represent the population under study (Sidhu, 2006). Survey questions concern people's behaviour, their attitudes, how and where they live, and information about their backgrounds. According to Fowler (1988) in Creswell (1994: 117) "a survey design provides a quantitative or numeric description of some fraction of the population (the sample) through the data collection process of asking questions of people". Therefore, on the basis of the above definitions, the researcher chose a descriptive survey design over other designs because it was going to permit him to collect facts and study the relationships of one set of facts to another and be able to likely produce quantifiable and if possible generalisable conclusions.

The study used both quantitative and qualitative methods of data collection. Greene et al. (1989) state that the use of both quantitative and qualitative paradigms in a study increases the quality of the final results and provides a more comprehensive understanding of the phenomenon being studied in that the results obtained by the use of one paradigm could be elucidated by the use of another paradigm.

3.3 Target population

The target population for this study was all teachers teaching grades 6 – 7 and learners in grades 6 – 7 in Luwingu District in Northern Province, Zambia.

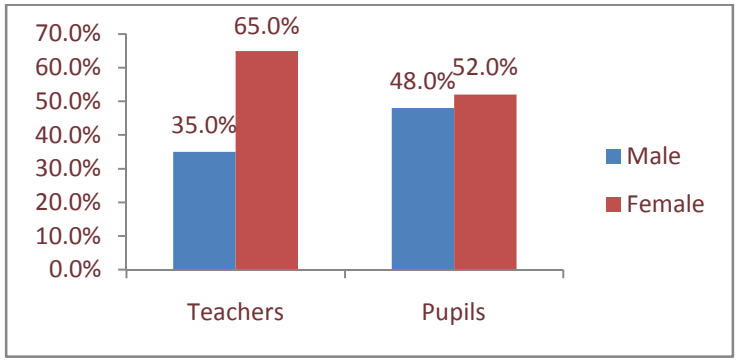
3.4 Sample size

The sample for this study comprised 100 respondents consisting of 40 teachers and 60 learners from the six selected primary schools in Luwingu District in the Northern Province of Zambia.

3.4.1 Gender of respondents

The Figure 3.1 below shows the sex composition of the teachers and learners who participated in this study.

Figure 3.1: Gender of respondents (n = 40)

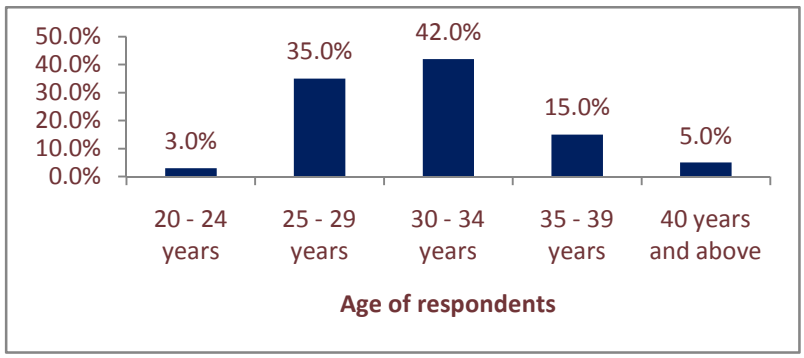


As can be seen from the figure above, out of the 40 teacher respondents, the majority of them, 26 (65.0%) in this research were females while 14 (35.0%) were males.

3.4.2 Age group of teachers

As regards to the age groups of the teachers who participated in this study, Figure 3.2 shows the age distribution.

Figure 3.2: Age distribution of teacher respondents (n = 40)



The figure above shows that the majority 17 (42.0%) were in the age group of between 30 and 34 years old followed by 14 (35%) who were in the age group of between 25 and 29 years old while six were in the age group of between 35 and 39 years old. The rest of the age groups were as shown in the figure above.

3.4.3 Teaching experience

As regards to working experience, Figure 3.3 below shows the number of years that teachers have been in the teaching profession.

Figure 3.3: Teachers' teaching experience (n = 36)

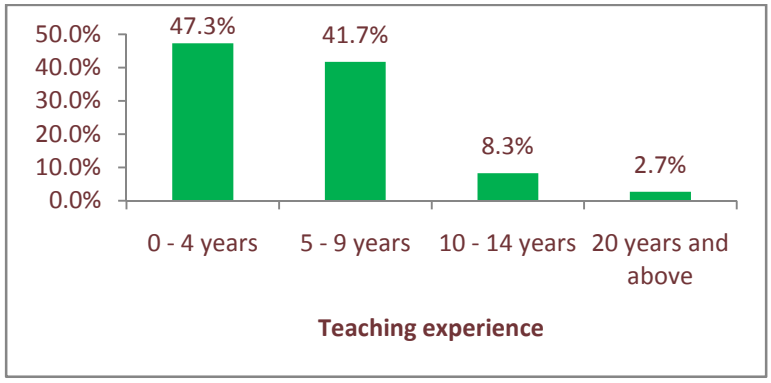


Figure 3.3 shows that out of the 36 teachers who responded to this issue, the majority of them, 17 (42.3%) indicated that they have been teaching for a period of between 0 to 4 years. This was followed by 15 (41.7%) who said that they have been in the teaching profession for a period of between 5 to 9 years. Of the remaining four teachers, three indicated that they have been

teaching for a period of between 10 to 14 years and only one teacher had worked for 20 years and above.

3.4.4 Teachers' highest professional qualification

In terms of highest professional qualification, the teachers' responses were as shown in Figure 3.4 below.

Figure 3.4: Highest professional qualification (n = 39)

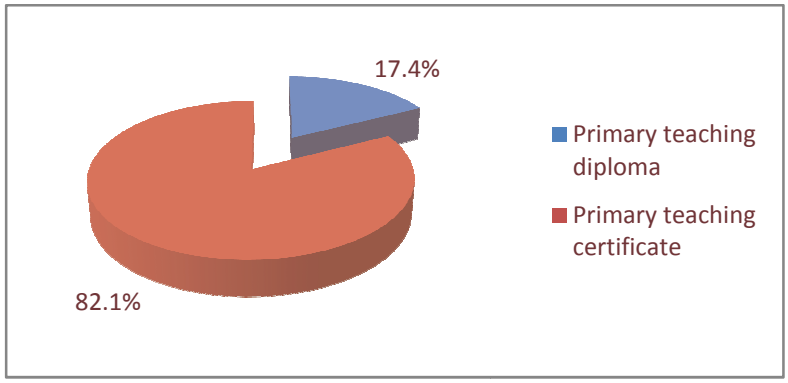


Figure 3.4 above shows that of the 39 teachers who responded to this question, the majority, 32 (82.1%) said that they had a primary teaching certificate in education as their highest professional qualification while seven of them indicated that they had a diploma in primary school education.

3.5 Sampling techniques

In selecting the schools, teachers and learners who participated in the study, purposive sampling procedure was employed. This method of sampling was preferred among others because it only targeted people who were expected to be information laden that would provide the most needed information for this study. Kombo and Tromp (2006) state that the power of purposive sampling lies in selecting information rich cases for in-depth analysis related to the central issues under study. In this case, the teachers and grades six and seven learners were believed to have rich knowledge and wider understanding about multiple intelligences because they have been in the school for a long time.

3.6 Research instruments and data collection

In collecting data for this research, semi-structured questionnaires which consisted of closed ended and open ended questions were used. Thesequestionnaires were used to obtain information from the teachers and learners regarding their views on the integration of multiple intelligences in instructional style of teaching and learning methodologies.

3.7 Data analysis

Data was analysed both qualitatively and quantitatively. Qualitative data was analysed using thematic analysis. Description of each theme was done and interpreted critically and objectively. The Statistical Package for Social Sciences (SPSS) was used to analyse quantitative data from the questionnaires. Computer generated tables of frequencies and percentages were used in describing distributions of the variables which were presented in the form of tables, pie charts and figures.

3.8 Ethical considerations

Ethical issues were highly considered in this study. Participants were informed about the nature and purpose of the study and informed consent was sought before data was collected from them. Respondents were also assured of high levels of confidentiality. In addition, the respondents were informed that the information gathered was purely for academic purposes.

3.9 Summary

The study employed a descriptive survey design. This design was chosen with the hope of to generalizing the findings to other districts in Zambia. A total of 100 respondents consisting of 40 teachers and 60 learners were purposively sampled from six selected primary schools in Luwingu District in the Northern Province of Zambia as they represented informants believed to have adequate and appropriate data for this study. The data collected was analysed both qualitatively and quantitatively. The qualitative data was analysed using thematic analysis while the quantitative data was analysed using the Statistical Package for Social Sciences (SPSS) to obtain percentages which were presented in the form of tables, pie charts and figures.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Overview

This chapter presents the findings of the study aimed at establishing teachers' and learners' views on the integration of multiple intelligences in their instructional styles of teaching and learning methodologies. The findings are presented in two parts beginning with findings from the teachers and then those from the learners and according to the objectives of the study. The objectives of the study were to: investigate teachers' views on integration of multiple intelligences in instructional styles of teaching in primary schools; explore the level of teachers' knowledge about multiple intelligences; establish whether teachers integrate multiple intelligences in their teaching methodologies; and assess learners' views on whether multiple intelligences either in or outside classroom were integrated in their learning.

4.2 Level of teachers' knowledge about multiple intelligences

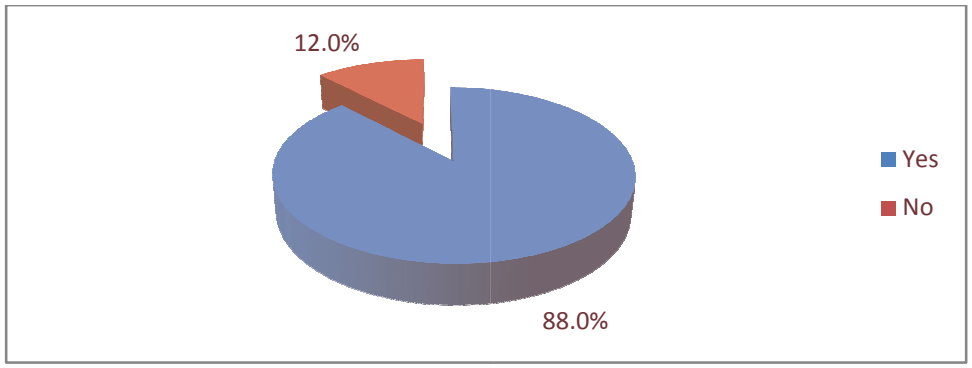
In order to establish the level of teachers' knowledge about multiple intelligences, data was collected from the teachers.

The teachers were asked whether they had ever come across the term "multiple intelligence". The results of the study showed that all the teachers 40 (100%) agreed that they had come across the term "multiple intelligence". Teachers were further asked to state the number of multiple intelligences and list the types of intelligences that they knew. All the teachers did not know the number of multiple intelligences and none of the teachers listed them.

4.2.1 Variation in intelligence

The teachers were asked if there were some learners in their classrooms that were more intelligent than others. Their responses were as shown in Figure 4.1 below.

Figure 4.1: Teachers' responses on whether there were some variations in the learners' intelligence (n = 40)



The figure above shows that the majority of the teachers, 35 (88%) of the teachers agreed that some learners in their classes were more intelligent than others while five of them said that they were no learners who were more intelligent than others.

4.2.2 Teachers' views on whether intelligence exists in many different ways

The teachers were asked state whether intelligence existed in many different ways. Out of the 39 teachers who responded to this question, the majority of them, 38 (97.4%) agreed that intelligence existed in many different ways while one teacher disagreed.

4.2.3 Existence of multiple-intelligence in one learner

The teachers were asked if it was possible for one learner to have more than one intelligence. The responses are given in the figure below. The majority of the teachers, 34 (97.1%) out of 35 teachers who responded to this question agreed that it was possible for one learner to have more than one intelligence while one teacher said it was not possible.

4.2.4 Failing in one area but with success in different area shows intelligence

Teachers were asked to indicate whether a learner who failed many times in grade seven, eventually stopped school and becomes an artist was intelligent. Their responses were as shown in Figure 4.2.

Figure 4.2: Failing in one area but success in different area shows intelligence (n = 39)

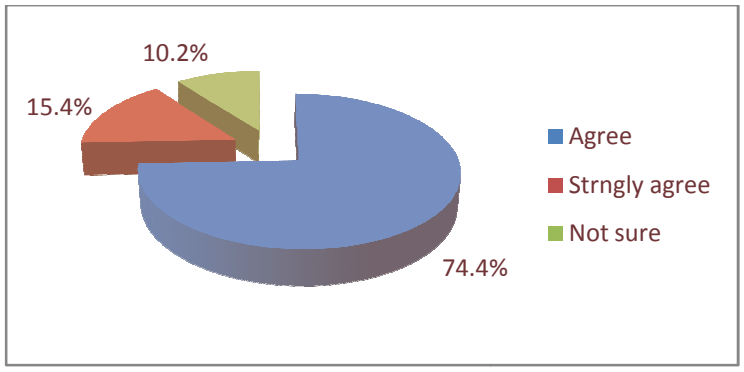


Figure 4.2 above shows that of the 39 teachers out of 40 who responded to this question, majority of them, 29 (74.4%) agreed while six of the teachers representing 15.4%, strongly agreed that a learner who failed many times in grade seven, eventually stopped school and becomes an Artist was intelligent. Four teachers representing 10.2% indicated that they were not sure.

4.2.5 Learners are not dull, what matters are appropriate instructional styles of methodology related to learners' intelligence

The teachers were asked if what mattered in determining learners' intelligence were the appropriate teaching instruction and methodologies related to the learners' intelligence. The responses are given in the figure below.

Figure 4.3: Learners are not dull, what matters are appropriate instructional styles of methodology related to learners' intelligence (n = 40)

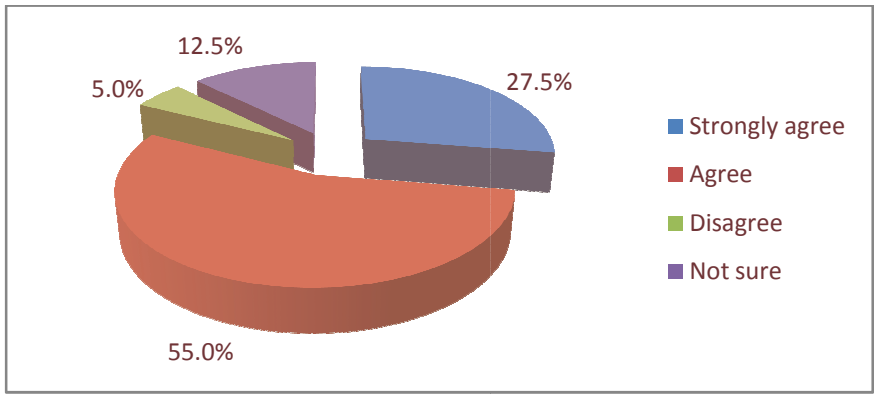


Figure 4.3 shows that the majority of the respondents, 22 (55.0%) agreed that learners were not dull, what mattered were appropriate instructional styles of methodologies related to learners' intelligence; 11 (27.5%) strongly agreed; five (12.5%) disagreed and two (5.0%) were not sure.

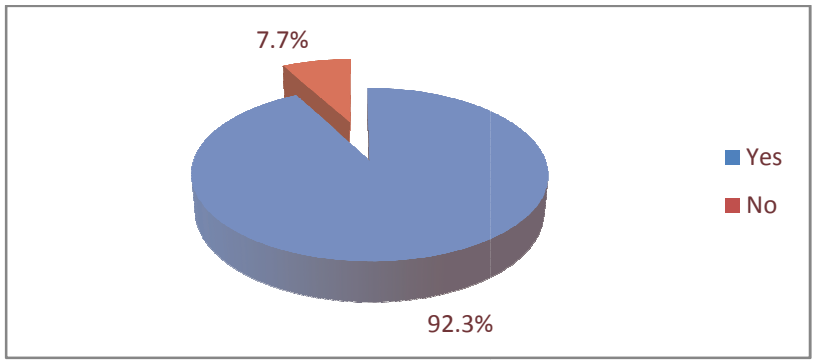
4.3 Teachers' views on integration of multiple intelligences in instructional styles of teaching in primary schools

In order to establish the views of teachers on integration of multiple intelligences in instructional styles of teaching in primary schools, data was collected from the teachers. Their views are presented below.

4.3.1 Teachers views on whether learners grasped concepts in classrooms differently

Teachers were asked to indicate whether learners grasped concepts that they learn in classrooms differently. Figure 4.2 shows their responses.

Figure 4.4: Whether learners grasped concepts in classrooms differently (n = 39)



The figure above shows that of the 39 teachers out of 40 who responded to this question, the majority, 36 (92.3%) agreed that learners grasped the concepts learnt in a classroom differently while three of them disagreed.

4.4 Whether teachers integrate multiple intelligences in their teaching methodologies

In order to find out whether teachers integrate multiple intelligences in their teaching methodologies, data was collected from the teachers. Their responses were as presented below.

4.4.1 Debate as a method of teaching fluency in English in a classroom

Teachers were asked to indicate whether they allowed their learners to debate as one of the methods of teaching fluency in English in their classrooms. The majority, 26 (68.4%) out of the total of 38 teachers who responded to this question said that they allowed learners to debate as one of the methods of learning while 12 (31.6%) of them said that they did not allow learners to debate.

4.4.2 Introduction of concepts using songs

Regarding the use of songs in the introduction of concepts, 34 (85%) of the teachers said they introduced concepts in their subjects using songs whereas six (15%) said that they did not use songs.

4.4.3 Introduction of lessons through imaginative story telling

The teachers were asked if they used imaginative story telling when introducing lessons in their classrooms. Of the 37 teachers out of 40 who responded to this issue, majority of them, 35 (94.6%) said that they introduced lessons in their classrooms through imaginative story telling while two (5.4%) of the teachers indicated that they did not.

4.4.4 Teaching mathematics using songs and games

The teachers were asked if they used songs and games to teach mathematics. Their responses were as shown in Figure 4.3.

Figure 4.5: Whether teachers taught mathematics using games and songs (n = 40)

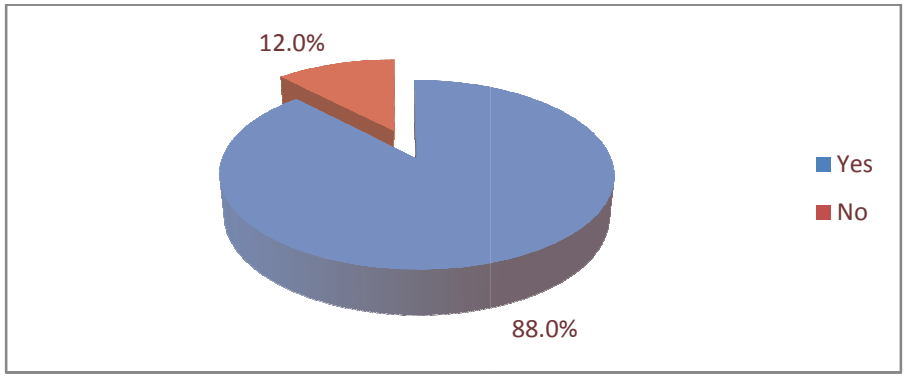
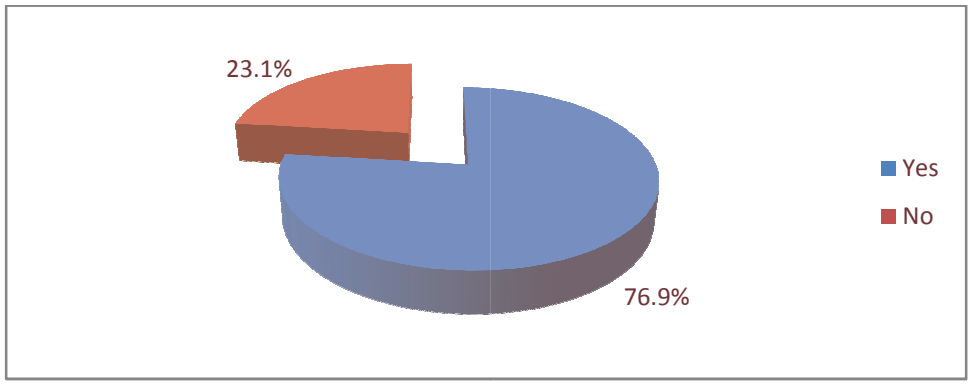


Figure 4.5 shows that, of the 40 teacher respondents, the majority of the teachers, 35 (88%) agr eed that they taught mathematics using songs and games while five (12%) of them said that they did not.

4.4.5 Whether teachers used examples from other fields when teaching mathematics

The teachers were asked if they used examples from other fields like football, music and art when teaching mathematics. Their responses were as illustrated in Figure 4.4 below.

Figure 4.6: Whether teachers used examples from other fields when teaching mathematics (n = 39)



From the figure above, of the 39 teachers who responded to this question, the majority, 30 (76.9%) agreed that they gave examples when teaching mathematics from other fields like football, music and Art while nine (23.1%) of them said that they did not do so.

4.4.6 Whether teachers taught painting, collage, paper mosaic and drawing

The teachers were asked if they taught painting, collage, paper mosaic and drawings from still life. The majority of the teachers, 28 (70.0%) agreed that they taught painting, collage, paper mosaic and drawing from still life in their classrooms while 12 (30%) said that they did not do so.

4.4.7 Whether learners participated in physical education activity

The teachers were asked if their learners during physical education activities could do bottle and sack race. Of the 40 teachers who responded to this question, the majority of them, 24 (60.0%)

agreed that they had learners in their classes that did bottle and sack race activities during physical education whereas 16 (40%) said that they did not.

4.4.8 Whether there are singing groups in classrooms

The teachers were asked if they had signing groups in their classes. Presented below were their responses. From the total of 40 teachers, 13 (32.5%) agreed that they had signing groups in their class while 27 (67.5%) did not have.

4.4.9 Whether learners were able to play musical instruments

The teachers were asked if they had learners in their classrooms that were able to play musical instruments such as banjo. Out of 40 teachers that responded to this question, The majority of them, 28 (70.0%) disagreed agreed that there were learners in their class that knew how to play musical instruments such as banjo and 12 (30.0%) agreed.

4.4.10 Whether classes have subject clubs

The question that addressed this was: Are there subject clubs in your classroom i.e. Maths club, Science club, English club etc. Out of a total of 40 teacher respondents, the majority, 33 (82.0%) disagreed that they had subject clubs in their classrooms while seven (18.0%) of them agreed.

4.4.11 Whether learners desired to work alone and whether teachers encouraged this behaviour

There was need to find out if there were some learners who wanted to work alone in classes. To this effect teachers were asked to indicate whether they had learners who desired to work alone in classes. Out of a total of 40 who responded to the question, the majority, 32 (80%) said they had learners in their class who wanted to just work alone whereas eight (20.0%) of the teachers said that they did not have such learners.

Teachers were further asked if they encouraged this behaviour. The majority of them, 38 (95.0%) said that they discouraged this behaviour while two (5.0%) of the teachers said that they encouraged it.

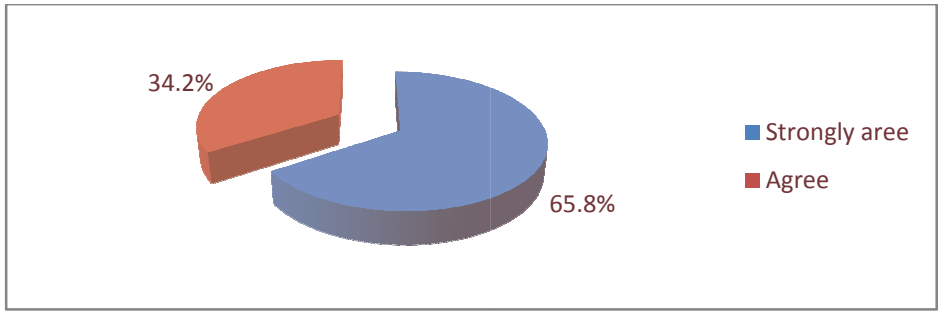
4.4.12 Whether learners took filed trips to learn about nature

The teachers were asked if they took their learners on field trips to learn about nature. Out of a total of 40 teachers, the majority, 25 (63.0%) agreed that they took their learners out of classrooms for field trips to learn about nature while 15 (37%) did not.

4.4.13 Whether debates, imaginative stories, group discussions and songs made learners learn faster and understand concepts from other subjects

The teachers were asked if they felt that debates, imaginative stories, group discussions and songs made learners learn faster and understand concepts from other subjects. Responses for this are given in Figure 4.7 below.

Figure 4.7: Debates, imaginative stories, group discussions and songs made learners learn faster and understand concepts from other subjects (n = 38)



The figure above shows that, out of a total of 38 teachers who responded to this issue, the majority, 25 (65.8%) "strongly agreed" that debates, imaginative stories, group discussions and songs made learners learn faster and understand concepts from other subjects while 13 (34.2%) "agreed".

4.4.14 Whether charts, songs, football, field trips made learners learn mathematics with less difficulty

The teachers were asked if charts, songs, football, field trips make learners learn mathematics with less difficulty. Their responses were as shown in Figure 4.8.

Figure 4.8: Charts, songs, football, field trips made learners learn mathematics with less difficulties (n = 39)

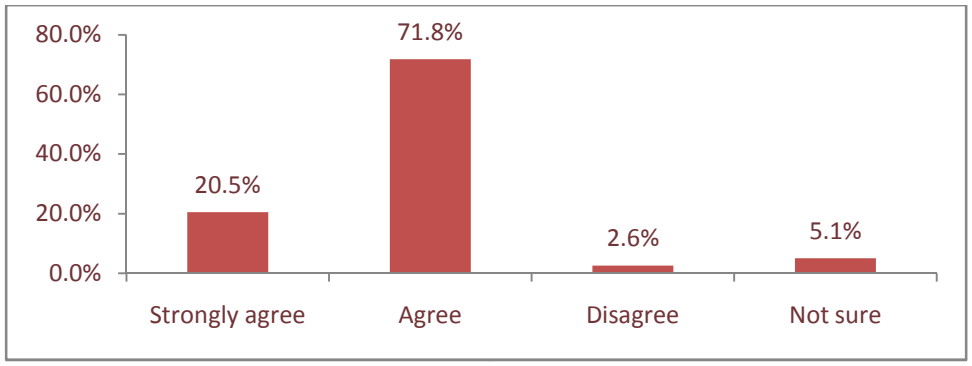
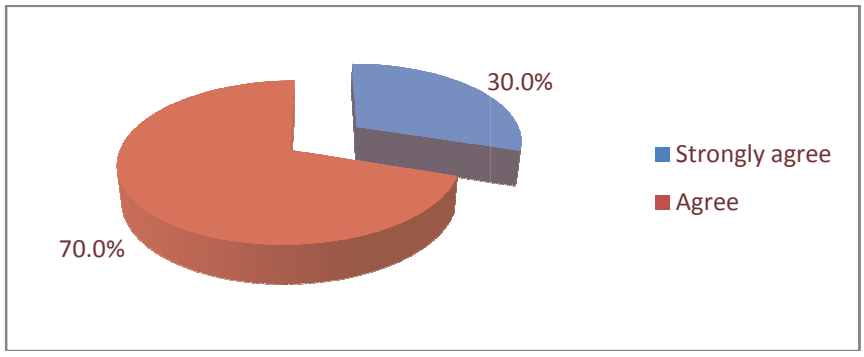


Figure 4.8 shows that, of the total 39 teachers who responded to this matter, the majority, 28 (71.8%) "agreed" while 8 (20.5%) "strongly agreed" that charts, songs, football, field trips make learners learn mathematics with less difficulties. One (2.6%) of the teachers "disagreed" while two (5.1%) of them were not sure.

4.4.15 Preference of drawing and painting more than writing passages and paragraphs

The teachers were asked if some of their learners preferred drawing and painting more than writing passages and paragraphs. Figure 4.9 below shows the results.

Figure 4.9: Preference of drawing and painting more than writing passages and paragraphs (n = 40)

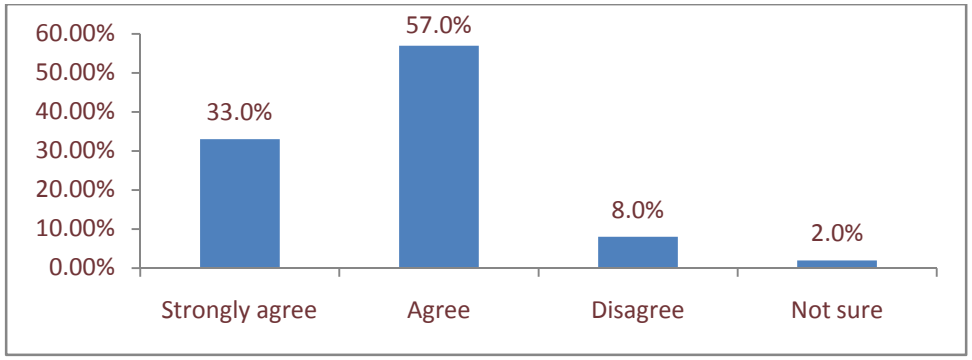


As can be seen in the figure above, of the total 40 teacher respondents, 12 (30.0%) "strongly agreed" that some learners did well in drawing and painting more than writing passages and paragraphs while 28 (70.0%) "agreed".

4.4.16 Cooperative groups, peer teaching, interpersonal interaction and group brainstorming learning activities make all learners participate effectively

The teachers were asked if cooperative or group work, peer teaching, interpersonal interaction and group brainstorming learning activities make all learners participate effectively. Their responses were as shown in Figure 4.10.

Figure 4.10: Cooperative groups, peer teaching, interpersonal interaction and group brainstorming learning activities make all learners participate effectively (n = 40)



The figure above shows that, of the total 40 teacher respondents, 13 (33.0%) "strongly agreed" that cooperative groups, peer teaching, interpersonal interaction and group brainstorming learning activities make all learners participate effectively in the classroom learning process, 23 (57.0%) "agreed"; three of the teachers "disagreed" and one of them was not sure.

4.4.17 Learning about nature (field trips) made learners develop interest in the lesson there after

The teachers were asked if learning about nature (field trips) made learners develop interest in the lesson there after. Figure 4.11 below shows their responses.

Figure 4.11: Learning about nature (field trips) made learners develop interest in the lesson there after (n = 40)

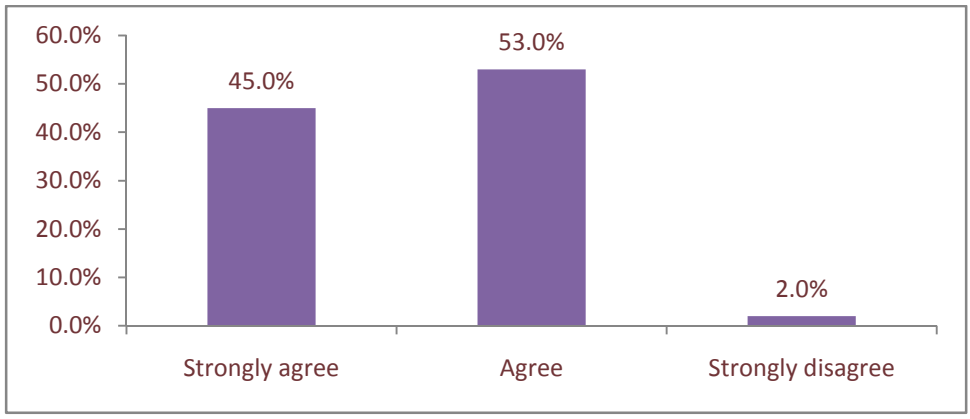
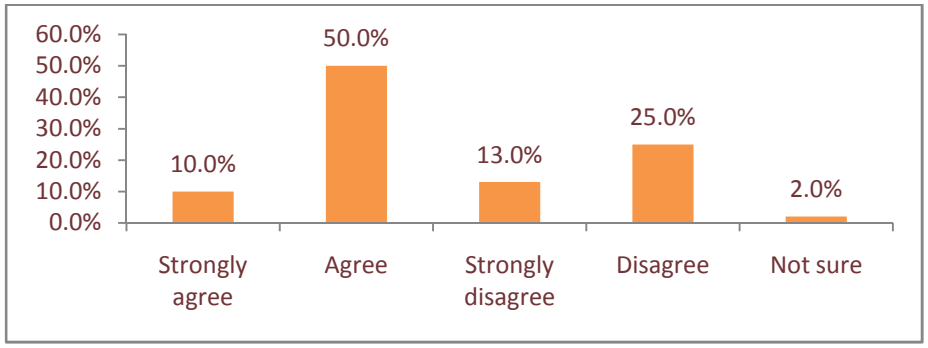


Figure 4.11 shows that, of the total 40 teacher respondents, the majority, 21 (53.0%) "agreed" that learning about nature (field trips) made learners develop interest in the lesson there after while 18 (45.0%) "strongly agreed" and one teacher "strongly disagreed".

4.4.18 Alternatives in intelligence

The teachers were asked if there are alternatives in intelligence. A specific question posed to seek this was: "A learner is a very good prefect, but does not know how to read and write. Is being a good prefect a sign of intelligence?" Their responses were as shown in Figure 4.12 below.

Figure 4.12: Whether there are alternatives in intelligence (n = 40)



The figure above reveal that, the majority of the teachers, 20 (50.0%) out of the total 40 teacher respondents "agreed" that a learner who was a very good prefect, but did not know how to read

and write was intelligent, four of them "strongly agreed", 10 (25.0%) "disagreed" and five "strongly disagreed". One teacher was not sure.

4.5 Learners' views on whether multiple intelligences either in or outside classroom were integrated in their learning

In order to find out the learners' views on whether multiple intelligences either in or outside classroom were integrated in their learning, data was collected from the learners. The findings were as presented below.

4.5.1 Whether classes have debate clubs and whether learners participated in debates

Learners were asked to indicate whether their classes have debate clubs and whether they participated in debates as speakers. Their responses were as shown in Table 4.1 below.

Table 4.1: Presence of debate club and participation as speaker in debates

Is there a debate club in your class	Do you participate in debates in your class as a speaker?		Total
	Yes	No	
Yes	12 (20.7%)	10 (17.2%)	22 (37.9%)
No	9 (15.6%)	27 (46.5%)	36 (62.1%)
Total	21 (36.2%)	37 (63.8%)	58 (100.0%)

Table 4.1 above shows that, out of the 58 learners who responded to this issue, on one hand those that agreed that they had a debate club and did participate in debates were 12 (20.7%) while those that agreed but did not take part in debates were 10 (17.2%). On the other hand, those that refused that there was no debate club in their classrooms but agreed that they did take part in debates were nine (15.6%) and those that did not have a debate club and did not take part in any debate were 27 (46.5%). The majority of the learners did not have a debate club in their classrooms and did not take part in any debate.

4.5.2 Whether learners liked group discussions in English in the classroom

The learners were also asked if they enjoyed class group discussion in English. Out of the 60 learners, the majority, 53 (88.0%) agreed that they enjoyed class group discussions in English while seven said that they did not enjoy class group discussions in English.

4.5.3 Whether learners enjoyed lessons when the teacher taught them through story telling in English

The learners were asked if they enjoyed the lessons when the teacher was teaching through story telling in English. Out of the total 59 learners who responded to this item, the majority, 53 (89.8%) of the learners said that they enjoyed English lessons when the teacher taught them through story telling while six of them said that they did not.

4.5.4 Whether learners read news in class and enjoyed reading news

Learners were asked whether they read news in class and whether they enjoyed reading news. Their responses were as shown in Table 4.2 below.

Table 4.2: Reading news in class and enjoying reading news

Do you enjoy reading news?	Has your teacher ever given you chance to read news in class?		Total
	Yes	No	
Yes	25 (46.3%)	19 (35.1%)	44 (81.5%)
No	3 (5.6%)	7 (13.0%)	10 (18.5%)
Total	28 (51.9%)	26 (48.1%)	54 (100.0%)

As can be seen from the table above, those that said they did enjoy reading news in class and were given chance to do so were 25 (46.3%) while those that enjoyed reading news in class but were not given chance to do so were 19 (35.1%). The respondents that did not enjoy reading news in class but were given chance to read it were three and those that did not enjoy reading news and were not given chance to read it in class were seven.

4.5.5 Whether teachers used songs when teaching English and whether learners enjoyed lessons when the teacher used songs

Learners were asked to indicate whether their teachers used songs when teaching English and whether they enjoyed lessons when teachers taught them through songs. Table 4.3 below shows their reactions.

Table 4.3: Using songs when teaching English and enjoying lessons when teacher used songs

Does you teacher use songs when teaching English?	Do you enjoy lessons when your teacher is teaching using songs		Total
	Yes	No	
Yes	17 (28.8%)	3 (5.1%)	20 (33.9%)
No	18 (30.5%)	21 (35.6%)	39 (66.1%)
Total	35 (59.3%)	24 (40.7%)	59 (100.0%)

Table 4.3 above shows that, of the 59 learners who responded to this question, 17 (28.8%) agreed that their teachers did use songs when teaching English and they enjoyed it. Those that agreed that their teacher did used songs but did not enjoy it were three out of the total number of 59 learners. Those who said that their teachers did not use songs when teaching English but they enjoyed it when the teacher used songs when teaching were 18 (30%) and those that their teachers did not use songs when teaching English and did not also enjoy it when the teacher used songs when teaching were 21 representing 35.6% of the total number of learners.

4.5.6 Whether teachers used of stories, songs and games when teaching mathematics and whether learners enjoyed this method of teaching

Learners were asked to indicate whether their teachers used of stories, songs and games when teaching mathematics and whether the learners enjoyed this method of teaching. Table 4.4 below shows their responses.

Table 4.4: Use of stories, songs and games by teachers when teaching mathematics and whether learners liked this method of teaching

Does you teacher use stories, songs and games when teaching you mathematics?	Do you enjoy learning mathematics when the teacher uses stories, games and songs when teaching?		Total
	Yes	No	
Yes	7 (11.9%)	7 (11.9%)	14 (23.8%)
No	15 (25.4%)	30 (50.8%)	45 (76.2%)
Total	22 (37.3%)	37 (62.7%)	59 (100.0%)

Table 4.4 shows that, of the 59 learner respondents, seven of them agreed that their teachers did use stories, songs and games when teaching you mathematics and that they enjoyed the lessons while seven said that they did not enjoy the lessons. Of the total, 15 (25.4%) of the learners disagreed that their teachers stories, songs and games when teaching mathematics but that they enjoyed lessons while 30 (50.8%) said that they did not enjoy lessons.

4.5.7 Whether teachers taught the learners mathematics through group work

The learners were asked if their teachers taught them mathematics through group work. Of the 58 learners who responded to this issue, the majority, 30 (50%) said that their teachers did not use this method while 28 (47%) agreed that their teachers taught mathematics using group work.

4.5.8 Whether learners have the ability to learn mathematics quickly when teachers used charts and examples from football

The learners were asked if they learnt mathematics quickly when the teacher used charts and examples from football. Out of a total of 60 learners, the majority, 38 (63.0%) said that they learnt mathematics quickly when the teacher used charts and football as examples whereas 22 (37.0%) did not.

4.5.9 Whether learners liked painting and drawing exercises

The learners were asked if they liked painting and drawing exercises. Of the total of 60 learners, respondents, most of them, 35 (58%) said they liked painting and drawing exercises while 25 (42%) did not.

4.5.10 Whether teachers gave chance to learners to paint and draw during classroom exercises

The learners were asked if they were given chance to paint and draw as exercise in class. Out of the 60 learners who responded to this subject, most of the, 35 (58.0%) said that their teacher gave them chance to paint and draw as exercise in class and 25 (42.0%) did not.

4.5.11 Whether learners preferred to do more drawing activities and painting than writing

The learners were asked if they would prefer to do more drawing and paintings than writing passages in classroom activities. Out of a total of 59 learners who responded to this matter, 13 (22%) agreed that they would like to do more drawing and paintings than writing passages in the classrooms, however, the majority of the learners, 46 (77%) rejected the idea.

4.5.12 Whether teachers used sports as part of examples when teaching and whether learners enjoyed lessons when the teacher used this method of teaching

Learners were asked to indicate whether their teachers used sports as part of examples when teaching and if learners enjoyed lessons when teachers used this method of teaching. Their responses were as shown in Table 4.5.

Table 4.5: Use sports as part of examples when teaching and whether learners enjoyed lessons when their teacher used this method

Does your teacher use sports as part of examples when teaching in your class?	Do you enjoy the lesson when the teacher gives examples from sports?		Total
	Yes	No	
Yes	37 (62.7%)	2 (3.4%)	39 (66.1%)
No	14 (23.7%)	6 (10.2%)	20 (33.9%)
Total	51 (86.4%)	8 (13.6%)	59 (100.0%)

The table above shows that out of 59 learners who responded to this question, 37 (62.7%) of the respondents agreed that their teacher used examples from sports when teaching and that they enjoyed lessons when their teacher used this method of teaching while 14 (23.7%) indicated that their teacher did not use examples from sports but that they enjoyed lessons when sports were used as examples. Of the remaining respondents, two of the learners, said that their teacher gave examples from sports but that they did not enjoy the lessons when sports were used as examples and six of the learners said that their teachers did not give them examples from sports when teaching and that they did not enjoy lessons in which teachers used examples from sports.

4.5.13 Learner's ability to sing

The learners' ability to sing was also considered. They were asked if they knew how to sing very well. Out of the 60 learners who responded to this issue, the majority, 53 (88.3%) said that they knew how to sign very well while seven of them indicated that they did not know how to sing.

4.5.14 Learners' views on presence of class singing group

The learners were asked if they had a singing group in their class. Of the 58 learners that responded to this question, the majority, 45 (77.6%) disagreed that they had a singing group in their class while 13 (22.4%) agreed.

Further, learners were asked if they were members of the singing group or choir in their class. The majority of them, 41 (68.0%) disagreed while 17 (28.0%) agreed that they were members of the signing group in their classroom.

4.5.15 Learners' ability to play musical instruments

The learners were asked if they were able to play musical instruments such as banjo. Of the 60 learners who responded to this question, the majority, 47 (78.0%) said they did not know how to play banjo while 13 (22.0%) indicated that they were able to play musical instruments such as a banjo.

4.5.16 Learners' views on whether teaching mathematics and English using songs made them learn very well

Of the 60 learner respondents, the majority, 37 (62%) said that they learnt well Mathematics and English through songs while 23 (38%) said that they did not.

4.5.17 Peer teaching and whether learners enjoyed this method of teaching

Learners were asked to indicate whether their teachers chose a learner to teach fellow learners and whether they enjoyed it. Their responses were as shown in Table 4.6.

Table 4.6: Peer teaching and whether learners enjoyed it

Does your teacher choose one learner to teach other friends?	Do you enjoy it when your friend teaches you in class?		Total
	Yes	No	
Yes	22 (36.6%)	10 (16.7%)	32 (53.3%)
No	10 (16.7%)	18 (30.0%)	28 (46.7%)
Total	32 (53.3%)	28 (46.7%)	60 (100.0%)

As can be see from the table above, out of the 60 learner respondents, 22 (36.6%) said their teacher chose one learner to teach other friends and that they enjoyed it while 10 (16.7%) of the learners did not enjoy it. However, 10 (16.7%) learners said that their teachers did not choose a learner to teach them but that they enjoyed it when they were taught by a fellow learner while 18 (30.0%) said that their teachers did not choose a fellow learner to teach them and that they did not enjoy being taught be a fellow learner. The table above shows that the majority of the learners liked it when they were taught by a fellow learner.

4.5.18 Learners' views on individualized work in class

The learners were asked if the enjoyed working alone in class as they felt friends would just disturb them. Of the 59 learners that responded to this issue, the majority, 39 (66.1%) of them said they did not enjoy working alone while 20 (33.9%) said that they enjoyed working alone in class because friends were just disturbing them.

4.5.19 Whether teachers took learners outside the classroom to learn about nature

Learners were asked to indicate whether their teachers took them outside the classroom to learn about nature and whether they enjoyed learning about nature. Their responses were as shown in Table 4.7.

Table 4.7:Whether teachers take learners outside classroom to learn about nature

Does your teacher take you outside classroom to learn about nature?	I like learning about plants, insects, animals and reptiles outside classroom		Total
	Yes	No	
Yes	27 (45.0%)	19 (31.7%)	46 (76.7%)
No	5 (8.3%)	9 (15.0%)	14 (23.3%)
Total	32 (53.3%)	28 (46.7%)	60 (100.0%)

From the table above, of the total 60 learner respondents, 27 (45.0%) said their teachers took them outside to learn about nature and that they like learning about plants, insects animals and reptiles while 19 (31.7%) indicated that they were taken outside but did not like learning about plants, insects animals and reptiles. On the flip side 5 of the respondents said that their teachers did not take them out of the classroom to learn about nature but that they liked learning about insects, plants, animals and reptiles while 9 indicated that they were not taken outside the classroom to learn about nature and that they did not like learning about plants, insects, animals and reptiles outside the classroom. The table above shows that the majority of the learners were taken outside to learn about nature and liked learning about plants, insects, animals and reptiles.

4.6 Summary

The findings of the study revealed that all teachers have come across the term “multiple intelligences but did not know the number of these intelligences and neither could they list them. The study findings also showed that teachers know that there are variations in intelligence and that intelligence exists in many different ways. Further, most teachers were aware of the existence of multiple-intelligence in one learner and that failing in one area but with success in different area showed intelligence. The findings demonstrated that teachers were of the view that learners are not dull, what matters are appropriate instructional styles of methodology related to learners' intelligence.

As regards teachers views on whether learners grasped concepts in classrooms differently, the study showed that 39 out of 40 teachers who responded to this question, the majority, 36 (92.3%)

agreed that learners grasped the concepts learnt in a classroom differently while three of them disagreed hence the need for an understanding of multiple intelligence.

In terms of whether teachers integrated multiple intelligences in their teaching methodologies, most of the teachers reported that they did incorporate this aspect through various activities which they gave to the learners in class although some did not do so.

The findings showed that, learners indicated that their teachers integrated multiple intelligences in their teaching either in or outside the classroom through, among others, the use of various activities such as sons, field trips, group work, peer teaching, promotion of individualized work, painting etc.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Overview

This chapter discusses the findings of the study aimed at establishing teachers' and learners' views on the integration of multiple intelligences in their instructional styles of teaching and learning methodologies. The discussion follows the study objectives which were to: explore the level of teachers' knowledge about multiple intelligences; investigate teachers' views on integration of multiple intelligences in instructional styles of teaching in primary schools; establish whether teachers integrate multiple intelligences in their teaching methodologies; and assess learners' views on whether multiple intelligences either in or outside classroom were integrated in their learning.

5.2 Level of teachers' knowledge about multiple intelligences

As regards teachers' level of knowledge about multiple intelligences, and existence of different intelligences, the study showed that of the forty (40) teacher respondents who participated in the study, 97% of them knew that intelligence existed in different ways. From the above data, it can be said that teachers were fully aware that intelligence existed in many different ways. Perhaps a significant question for arguments' sake one may ask is whether teachers used all the eight types of intelligences namely: linguistic intelligence, logical-mathematical, spatial intelligence, musical intelligence, bodily–kinesthetic intelligence, intrapersonal intelligence and naturalistic intelligence in their classroom instructional styles to enable the learners learn through their best model of learning styles. This is confirmed by Armstrong (2000) who alludes that a teacher can try to use instructional styles of multiple intelligences found in learners to explore their abilities.

With regard to whether multiple intelligence can exist in a single learner, most of the teachers 34 teachers out of 35 (97%) were of the view that that it was possible for one learner to have more than one intelligence an indication that teachers were aware that learners are capable of learning different skills and achieve high performance. The educators' role is to ensure that the intelligences are exposed by assessing the skills that the learners may demonstrate so that the

potentialities of the learners are fully developed. It is also important for the teachers to use instructional techniques that may accommodate the learning styles of the learners to ensure that learners participate in all the subjects across the curriculum. This means that no intelligence is inferior to the other.

It was also clear from the study findings that failing in one area but succeeding in other different areas showed intelligence. This aspect was supported by 88% of the teachers in this study who stated that a learner who failed many times in grade seven and consequently stopped school and became an Artist was intelligent. This in its own is another testimony that teachers perceived intelligence as a multiple phenomenon. It was found that teachers were aware that the learner who failed to perform better in a particular subject area can do far much better in other intelligences. Therefore, it is important for the educators to expose the learner to a range of a subject in the curriculum for instance, Music, Art, Industrial Arts, Home Economics, Mathematics, among others. This approach agrees with the findings of Sternberg (1981) who in a study on intelligence of Western cultures found that the concept of intelligence emphasized verbal ability, practical problem solving and social competence.

The study further revealed that learners are not dull, what matters are the application of appropriate instructional styles of methodologies related to learners' intelligence as was evidenced by eighty-seven per cent of the teachers in this who attested to this fact, compared to a marginal ten per cent of the teachers who otherwise, had a negative view. However, it is important to note that effective instructional techniques promote good learner participation. The educator should ensure that a wide range of teaching methods are used to accommodate the learning styles of individual learners. The methods should be integrated considering the fact that intelligence in the learners is demonstrated in various ways. Woolfolk (2010) contend that the subject material possessed by the teacher and how it is imparted can improve the learners' performance. For the subject to be meaningful to the learner it has to be tailored in a manner that encourages the full participation of the learners so as to activate their classroom performance.

5.3 Teachers' views on integration of multiple intelligences in instructional styles of teaching in primary schools

Although most of the teacher respondents did agree that they had come across the term 'multiple intelligence', it was discovered when the teacher respondents were asked to state and list the number of intelligences that they know, that none of them was able to state and list them accordingly. This further revealed that some learners if not all do not adequately benefit from the intelligence that they posse because teachers who are supposed to impart that in learners did not know types of intelligence that learners posses.

As regards to whether teaching learners using multiple intelligences increased learner performance in all subjects, showed that 83% of the teachers were of the view that teaching learners using multiple intelligences increased the learners' performance although a few teachers were not sure of the statement. In this sense, it could be said that some teachers did not understand the concept of multiple intelligence and this further meant that the aspect of multiple intelligence might have not been utilised in some classroom as it is supposed to be. Nevertheless the study still showed that multiple intelligence increased the learners' performance which is an indication that there were some teachers who applied the concept of multiple intelligence in their instructional styles of teaching.

As to the teachers' understanding of learners ability to grasp concepts in the classroom, almost all the teachers, (92%) were of the view that learners grasped the concepts taught in the classroom differently. This finding implied that teachers were already aware that the learners received the learning instructions based on their own learning styles. The findings agree with those of Gardner (1983) who alludes to the fact that learners come into the classroom with different sets of intelligences which just needed to be developed or activated by the teacher. It can further be said that each individual learner has his or her own unique intellectual strength. It is worth noting therefore, that teachers should engage in learners preferred learning styles in the teaching and learning process. It is also necessary for the teachers to provide the learning activities while taking into account the fact that any learning activity should appeal to different intelligences and consequently any aspect of learning in the classroom should aim at measuring multiple intelligences if learning is to yield some desirable outcomes to a learner.

The study also revealed that teachers were of the view that teaching logical reasoning (Mathematics) and verbal linguistic (English) only contributed to learner poor performance as evidenced by 53% of the teachers in this study who attested to this fact. However, there were some few teachers who displayed ignorance about this issue.

Despite this being the case, study further showed that 49% of the teachers did not apply the (dimension) of approach of multiple intelligence in the classroom teaching and this also meant that certain learners might have been left out. It is important to note that certain learners may not be accommodated if teachers only recognize the logical and verbal linguistic intelligences. This finding is in line with (Santtrock, 2006) who asserts that some learners may not possess the logical and linguistic competences but if other intelligences are well incorporated they may also benefit and make greater achievements in their learning

As regards to reasons for the variations in performance of learners the teachers attributed this to several factors which included commitment from both parents and learners. The teachers in this study explained that parents influenced the performance of the learners through good parental interaction, which promotes interpersonal intelligence from early life of a child. Some parents provide the environment with adequate facilities that induce or activate the intelligences that each human being possesses. The study revealed that the home background also contributed to the development of intelligences in a learner. This finding conforms to Eysenck (2004) who argued that stimulating good interaction among the family members promotes interpersonal intelligence. The background of the child has a big role to play particularly the background where a leaner experienced the use of toys, crayons and many others.

Furthermore, the study showed that teachers viewed the pre-school background as one area that highly influences the development of intelligences in a learner. The teachers stated that the pre-school environment activates the development of several intelligences as pre-school teachers involved numerous activities such as music, drawing, dancing, puzzles, jigsaw, games and many other activities in the play parks. Some of the factors that contributed to low or poor performance as revealed by this study included among others inheritance - those learners who carry genes of intelligent parents and non-integration of multiple intelligence in the school curriculum.

5.4 Whether teachers integrate multiple intelligences in their teaching methodologies

As regards to whether teachers integrated multiple intelligences in their teaching methods, there was some evidence that they did so. These included: debates, presence of press clubs, introducing of new concepts in classroom using songs, introducing of lessons through imaginative stories, teaching Mathematics using songs and games, giving examples from other fields when teaching Mathematics, teaching painting, collage, paper mosaic and drawing from still life, physical education activities, encouraging individual work, and field trips to learn about nature.

Debate as a method of teaching fluency in English

The study revealed that 26 out of 40 teachers used debates as one method of instructions. However, to the contrary, 37 out of 60 learners stated that their classrooms did not have debate clubs through which they could learn English fluently. It was also found most of the learners 62% did not participate as speakers in debates. This analysis shows a contradiction between teacher and learner respondents. Learners being the best inspectors in every learning situation, could revealed the truth, which simply entails that teachers did not carry out this exercise in order to cater for every learner in the classroom. This analysis further demonstrated that some learners who might have been benefiting from linguistic intelligence were disadvantaged. This finding is in agreement with (1993) and Chapman (1993), who posit that linguistic intelligence is the ability to use language frequently and communicate both in speaking and writing. They further claimed that these learners often like reading books and do well in literature. It is for this reason that teachers should promote linguistic intelligence in the learners across school curriculum to maximize instructional learning styles, hence increased learning enjoyment in the learners in the school subjects.

Presence of Press Clubs

The findings from the study showed that 32 out of 40 teachers reported that there were no Press Clubs in their schools. This finding was also confirmed by 28 out of 60 who even reported that they did not have a chance to read any form of news in their classrooms. However, 77% of learners were of the view that they would enjoy reading news in classrooms if teachers exposed them to such an activity as part of learning and teaching methodology. The above findings seem

to reveal that the linguistic intelligence was not incorporated by majority of the teachers in their instructional techniques. This meant that a lot of learners did not utilize this part of their intelligence skills in their learning process. It is imperative, therefore, that teachers should ensure that Press Clubs are established in schools to enhance active learner participation in the classroom lessons. Chapman (1993) suggests that learners whose linguistic intelligences are explored in most cases become language teachers, interpreters, editors, journalists, radio announcers, reporters, librarians to mention but a few, and learners whose intelligences mentioned above are not explored fully, then it means that their future would be blunt. Teachers should therefore not deny this golden opportunity to learners whose career is mentioned above.

Introducing of new concepts in classroom using songs

As regards to introducing of new concepts in classroom using songs, the study revealed that found that 34 out of 40 teachers reported that they introduced new concepts during lessons using songs. Contrary to the teachers' reports, most of the pupils (41 out of 60) reported that their teachers did not use songs when introducing new concepts in classrooms. Additionally, 58% of learner respondents said that they would enjoy the lessons if teachers introduced new concepts using songs. However, over fifty per cent of the pupils reported that they would learn very well and enjoy Mathematics and English if their teachers used songs to teach subjects. These contradictory responses between the teacher and learner respondents show that teachers just wanted to cover up themselves that they applied appropriate teaching methodologies without realising that learners would reveal what was on the ground. For this reason, it could be right to say that although teachers employed the technique of using songs when introducing concepts, the majority of the learners were not encouraged to become members of the singing groups which enhance the assimilation of the desired materials in the classroom. It is important, therefore, for teachers to incorporate the musical intelligence in the delivery of concepts in all the subjects. It is equally important to note that, there are a lot of musicians today whose talents were activated through songs in classrooms during their either primary or secondary education who might have not done very well in other intelligences, but they are musicians today. Gardner (1993) confirms that learners who have musical abilities in them learn better when the teacher is using songs when teaching. For example, learners can master well days of the week through the famous song

"Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday"; there are seven days in a week. This concept would be assimilated by learners and cemented in them for life.

Introducing of lessons through imaginative stories

This study showed that 95% of the teachers reported that they introduced lessons using imaginative story telling. It can, therefore, be safely said that majority of the teachers involved stories in their instructional styles of teaching. It has been observed that stories reinforce the development of linguistic and logical mathematical intelligences.

Pupils (53 out of 60) revealed that they enjoyed English lessons that were taught by their teachers who used stories. The findings from both teacher and learner respondents regarding use of stories as an aspect that learners enjoyed in the classroom were in conformity with (Chapman, 1993) who points out that it is important for teachers to employ stories in their teaching as much as possible if learners are to make progress in their academic endeavors. It can further be said that linguistic intelligence was one of the highly pronounced type of intelligences that was oftenly employed in a classroom by teachers.

Teaching Mathematics using songs and games

With respect to teaching Mathematics using songs and games, this study showed that that 35 out of 40 teachers indicated that they taught Mathematics using songs and games as a way of reinforcing assimilation of mathematical concepts. However, learners (45 out of 60) reported that their teachers did not use songs and games in teaching Mathematics. This is a contradiction between the teacher and the learners. The findings above shows that, although the logical mathematical intelligence was incorporated in the teaching of mathematics, the application of the appropriate methodology that would appeal to learners' particular intelligence in a classroom was absent. Teachers should ensure that they engage songs and games not only in the teaching of mathematics but also in other subjects as well so as to activate the interest in the learners.