

**ENVIRONMENTAL FACTORS AND THE LEARNING OF THE
MENTALLY CHALLENGED PUPILS IN PRIMARY SCHOOLS,
MERU-SOUTH DISTRICT, KENYA**

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DECLARATION

I, Magdaline Syphrosa Odongo, do declare that this piece of work herein is original, both in substance and in style unless otherwise acknowledged, and has never been presented to any other institution of learning for any form of academic award.

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27th NOVEMBER, 2013

Date



APPROVAL

I/We confirm, that the work "Environmental Factors and learning of pupils with mental Challenged" has been submitted to me/us for Approval.


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28/11/13
Date

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Date

DEDICATION

I dedicate this work to my husband and children for their moral and financial support.

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ABSTRACT

The purpose of this study was to establish the extent to which environmental factors affect the learning of the mentally Challenged pupils in Chuka Division Meru-South District, Kenya. It was guided by the following objectives to; determine the extent of environmental factors in Meru-South District primary schools, the level of learning of pupils with mental Challenge in Meru-South district primary schools and if there is any significant relationship between environmental factors and the level of learning of pupils with mental Challenge in Meru-South district primary schools. Methodology; The study was co-relational in nature based on quantitative approach involving, The target population of the study comprised of 200 teachers in 10 primary schools through simple random selection, with a sample size of 133 respondents from ten schools in Chuka Division. Primary data was collected using self administered questionnaires and analyzed by statistics such as mean, percentage distribution and Pearson linear correlation coefficient. Findings, The first objective was to determine the level of environmental factors on mental retardation. Findings on this were done by studying indicators of nutrition and health which was moderate with 2.57, safety was found to be low at 2.48, and lastly sensory, emotional and social stimulation that were rated moderate at 2.58 in the school. Thus; the environmental factors on mental retardation was found to have been moderate with a grand average mean of 2.54. The second objective was to determine the level of learning of learners with mental retardation. Findings on this were done by study in the numbers of learners who performed between 2011 and 2012. The study found out that the level of learning of pupils with mental retardation was poor with an average mean of 0.34. The third Objective was to determine if there is a significant relationship between environmental factors and level of learning of the learners with mental retardation. Using the Linear regression results, the results indicated that environmental factors and learning of mentally retarded learners are not significantly correlated ($r = -0.0664$). The sig. value indicate that there is a positive and significant correlation (Sig. = $0.000 < 0.05$) leading to a conclusion that Environmental factors significantly improve learning of mentally retarded learners at 5% level of significance. Basing on these results the stated hypothesis of "there is no significant relationship" is rejected and thus the findings showed a negative relationship between environmental factors and learning of mentally retarded learners. These results lead to a conclusion that improvement in environmental factors is likely to improve the learning of mentally retarded learners in Primary schools in Meru-South District. Conclusion, The researcher used indicators of nutrition and health which was moderate with 2.57, safety was found to be low at 2.48, and lastly sensory, emotional and social stimulation that were rated moderate at 2.58 in the school, the researcher found out that the level of learning of pupils with mental Challenge was poor with an average mean of 0.34. The researcher by use of the Linear regression results, found out that the dependent variable environmental factors and learning are not significantly correlated ($r = -0.0664$). The sig. value indicate that there is a positive and significant correlation (Sig. = $0.000 < 0.05$) leading to a conclusion that Environmental factors significantly improve learning of mentally challenged learners at 5% level of significance. Basing on these results the stated hypothesis of "there is no significant relationship" is rejected and thus the findings showed a negative relationship between environmental factors and learning of mentally challenged learners. These results lead to a conclusion that improvement in environmental factors is likely to improve the learning of mentally challenged learners in Primary schools in Meru-South District. Recommendation from the study were for learners to be able to perform they should be fed with balanced diet. Their safety and provision of enough playing materials should be adequate. Different teaching approaches used by the teachers. Modification of the curriculum should be done and sensitization of the community to have positive attitude towards them, The government should modify the curriculum to suite the learners needs. The parents to be taught on how to nurture their families before, during and after pregnancy by maintaining balanced diet and emotional well being of their families. Sensitizing other learners to work with and support their peers who are mentally challenged in their classes as they are members of the same community. The attitude of teachers and entire school community should be positive in order to accommodate these learners in school and raise self-esteem. In addition to subaverage intellectual functioning, which is determined by a test, it is necessary to also determine that there are limitations in adaptive skills that occur within the context of community environments typical of the individual's age peers and is indexed to the person's individualized needs for supports. Adaptive skill areas are those daily living skills needed to live, work and play in the community. They include communication, self-care, home living, social skills, leisure, health and safety, self-direction, functional academics (reading, writing, basic maths), community use and work.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The research study was about the environmental factors and learning of pupils with mental Challenged in Chuka Division Meru-South District.

1.1 Background of the study

1.1.1 Historical perspective

From time immemorial people with mental Challenged all over the world were considered socially and physically less capable. Hence, they were not easily accepted and regarded as part and parcel of the family and community. They suffered neglect and rejection. This was because families and communities had negative attitudes towards them. People regarded mental Challenged as being caused by witchcraft, curses or punishment from God (Payne and Mercer, 1978: Payne and Thomas, 1978).

In the 19th century the Greeks called them idiots. This term was used to mean that they were people who did not hold public office. The label imbecile derived from Latin word which meant weak and feeble minded was used to describe them. Some great philosophers like Plato and Socrates condemned them as not capable of reasoning therefore could not learn (Mac Millan, 1982).

Some African communities used to throw such children in the bush because women were expected to give birth to healthy babies. This was due to cultural practices and beliefs (Devlieger, 1989). In Kenya people or learners with mental Challenged were in the past called "Wajinga" which means fool or idiots. Such children with mental Challengeds were hidden in cages or darkrooms.

Such beliefs have however changed and others are still changing. Now there are some developments. People are now using terms like "Waliopungukiwanaakili" (those with low intellectual ability) (Kalugula, et.al.1984).

Environmental factors, These are factors within the environment that influence or affect how a child learns. They may include nutrition, health, safety, sensory stimulation, language stimulation, emotional and social development.

Nutrition, When a child is deprived of appropriate nutrition, his learning is affected and lead to mental Challenged. Mental Challenged can also result from metabolic, nutritional endocrine or growth dysfunction specifically, they include neuronal lipid storage diseases such as Tay-Sach's disease, carbohydrate disorder which interferes with brain metabolism, amino acids disorder such as phenylketonuria (PKU), and mineral disorders (Suran and Rizzo, 1979).

Health, Ignored or neglected learners who live under unhealthy conditions and improper inadequate medical care are at a high risk. When a person swallows or absorbs or inhales Lead in any form, it can lead to learning disabilities or mental Challenged. It can also cause seizures or even death. Lead poisoning can be got by eating the flaking lead-based paints often found in older building (Mosby's Medical dictionary 2nd edition, 2009).

Some learners who might have not got the opportunity of getting immunization during, childhood can suffer from whooping cough, chicken pox, measles and it can affect their brain development and learning. Some physical agents which are beyond the mothers control like falls and injury can also lead to brain damages (Ndurumo,1993).

Safety; The safety of learners with mental Challenged is paramount. They are required to live in a least restrictive setting appropriate to their individual needs and abilities and in a variety of living situations. For example in a supervised protective environment. The school compound should be well fenced and free from moving vehicles. The school compound should be free from potholes, hills, stairs in order to provide easy movement because some learners may suffer from low vision or cerebral palsy which interferes with coordination and movement. The school should have proper lockable gates with gatekeepers for security reasons. The classrooms should be free from sharp objects and should be large enough for easy movement in case of wheelchair users (Ndurumo, 1993).

Sensory and languages stimulation, Most learners with mental Challenged must have lacked the maternal sensory stimulation and suffer isolation and rejection during the early ages of life. Separation not only causes mental Challenged but also severe emotional disorders because interaction with other people is one of the cardinal requirements for emotional growth and development(Grossman,1973).During the

early stages of child development, the child is able to understand the world by co-ordinating sensory experiences with physical actions. The child is capable of moving, grasping, imitating and exploring. If they are not given opportunities to do all these, then they may not acquire any language.

Emotional and Social Development, Emotions may be viewed as internal reactions or feelings, which may be either positive (such as joy) or negative (such as anger). For a child to develop physically, proper diet and exercise are necessary. Similarly, for good emotional development, love and security provided by parents or caregivers are regarded as important ingredients. Behaviours that express movement e.g.: gestures and facial expressions.

1.1.2 Conceptual perspective

In this study, environmental factors refer to conditions that affect the behaviour and development of somebody or something positively or negatively (Oxford Advanced Learners Dictionary 6th edition). These can also be environmental barriers that can hinder learning to take place effectively. These barriers can be physical or social. The social could lead to isolation, segregation and rejection from peers and other people.

In this study, environmental factors which are perceived to have an effect on the learning of the mentally Challenged learners are three, namely; nutrition and health in the school, safety in the school as well as sensory, emotional and social stimulation.

- Nutrition and health refers to good feeding habits with enough balanced diet in order to grow healthy. Proper medical care taken into account to avoid some infections, intoxicants, metabolic and chromosomal abnormalities.
- Safety in the schools refers to living in a least restrictive setting appropriate to the learner's individual needs in a supervised protected environment.
- Sensory, emotional and social stimulation refer to how well the learner is made to learn by use of the five senses. The sense of touch, smell, taste, hearing, seeing. Emotions may be viewed as internal reactions or feelings which may be positive or negative.

- Social stimulation enables learners to develop language, motor and cognitive skills. Learners with mental Challenged have difficulties acquiring such skills.

Mental Challenged means significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period(AAMD,1973).

There are several causes of mental Challenged but adverse environmental factors may be cause of mental Challenged deprivation. According to Heber (1959), a psychological disadvantage was previously described as cultural-familial mental Challenged. These children come from impoverished surroundings, poor housing, lack of proper medication and nutritional imbalance. All these can lead to prematurity, low birth weight or infectious diseases.

Grossman (1973) states that sensory deprivation is another problem where maternal parents do not interact and stimulate their children during the critical years of age. Lack of the opportunity to interact and play with their peers can cause mental Challenged and severe emotional disorders because interaction with other people is one of the cardinal requirements for emotional growth and development. Lack of welcoming school environment where they are ridiculed by their peers and unaccommodating school curriculum can lead to behavioral and emotional disorder.

Learners with mental Challenged can be classified on the basis of medical, psychological and educational aspects. The medical classification is based on the causes of Challenged. Educational classification is based on the educational needs, while psychological has been recommended by educators based on the natural progression of the child's developmental milestones.

They can also be classified as mild, moderate, severe and profound depending on the level of Challenged. Educational classification use the terms as educable, trainable and custodial (AAMR, 1973).

Learning of the learners with mental Challenged mainly depend on intelligence Quotient (IQ) levels. The educational classification where the educable, trainable and custodial will determine their educational needs. Educable mentally Challenged can be provided basic cognitive skills. The custodial require constant care in residential institutions (Robinson and Robinson, 1976).

Kirk (1972) states that learners with mental Challenged also have behaviour and social adjustment problems. They also have low frustration tolerance and short attention span. These makes them give up tasks easily. These may also lead to personality and social development problems. Sometimes they develop temper tantrums because they may feel that they are forced to do impossible tasks. Robinson and Robinson (1976) states that these children find little pleasure in engaging themselves in non rewarding activities.

All these problems have made the teachers have difficulties in handling these learners. However Robinson and Robinson (1976) and Haring (1978) observed that purely academic achievement is inappropriate for these learners. They stress that the curriculum should emphasize social competence, occupational skills and self care.

The learning aids used by the teachers and some teaching resources can influence the performance of learners with mental Challenged. Materials like the Audio visual equipments, a bell or buzzer, different colored backgrounds, brightly colored matched boards, a doll, and beads for threading for motor skills. Toothbrush, clothes with buttons and button holes, water, basin, soap, brooms for activities of daily living skills. For social and cultural skills they may sing, drama, story telling.

Provision of basic needs at home is also important for the mentally Challenged. Clothing, feeding, shelter, play materials will also be examined in this study (Haring, 1978).

Learning refers to gaining of knowledge or skill by studying from experience, from being taught. (Oxford Advance Learners Dictionary 6th Edition).

In this study learning mentally Challenged learners will include functional academic skills. Social skills, personal skills for personal maintenance, communication skills, listening and verbal skills, self help skills.

External level of learning will involve joining vocational institutions for vocational training or engaging the learners in sheltered workshops which will enable them learns necessary work habits.

1.1.3 Theoretical perspective

The study was based on two theories namely:-the Theory of Cognitive Development by Jean Piaget (1960). The second one is the Psychosocial Theory of Personality Development by Erickson according to Schultz (1981).

The first theory deals with the stages of development of a child from zero to two years. This is where a child understands the environment through the use of five senses. The child is involved in manipulation, movements, imitation in order to acquire language (Dworetzxy 1981).

The Development of the child increases through interaction of physical environment. Parents and teachers should allow children and learners in play activities and play materials.

The second theory is the psychosocial Theory of Personality Development by Erickson according to Schultz (1981). This theory states that the influence of family members and significant others on the growing child's personality is evident. Children with mental Challenged are likely to experience emotional and behavior problems if they feel that they are neglected, unwanted or incompetent.

Children with mental Challenged most of the time have cognitive problems due to isolation, segregation and negative attitudes by the community around them. They develop the sensory motor slowly, self help skills, communication and socialization skills may also be achieved at a slower rate.

The second theory is the Psychosocial Theory of Personality Development by Erickson according to Schultz (1981). This theory is concerned with relationships between needs of an individual and those of the society. A person's past and present social settings are considered as playing a crucial role of influencing ones personality. Erickson emphasized that culture, society and historical events have more effects on the development of personality. This refers to the way an individual responds to the world or carries oneself as a result of internal and external influences.

The influence of the family members and significant others on the growing child's personality is evident. Children with Mental Challenged are likely to experience emotional and behavioral problems if parents, teachers and peers make them feel unwanted, peculiar or incompetent. If they overly criticize, mock or

humiliate them, or if they deny them opportunities to engage in play, social activities and household chores. If teachers fail to encourage and train them to acquire literacy skills of reading and writing. Also fail to train on expectations of the society in terms of their future adult roles. They should be assisted by providing the necessary knowledge and skills but their abilities taken into consideration so as to avoid frustrating the learner.

Jean Piaget defined himself as a 'genetic' epistemologist, interested in the process of the qualitative development of knowledge. He considered cognitive structures development as a differentiation of biological regulations. When Jean Piaget's entire theory first became known - the theory in itself being based on a structuralist and a cognitivist approach - it was an outstanding and exciting development in regards to the psychological community at that time. This structuralist-oriented theory took over the behaviorist and functionalist psychological approach which became popular at the time before Piaget's theories were announced. The child performs an action which has an effect on or organizes objects, and the child is able to note the characteristics of the action and its effects.

Through repeated actions, perhaps with variations or in different contexts or on different kinds of objects, the child is able to differentiate and integrate its elements and effects. This is the process of "reflecting abstraction" (described in detail in Piaget 2001).

One of Piaget's most famous studies focused purely on the discriminative abilities of children between the ages of two and a half years old, and four and a half years old. He began the study by taking children of different ages and placing two lines of sweets, one with the sweets in a line spread further apart, and one with the same number of sweets in a line placed more closely together. He found that, "Children between 2 years, 6 months old and 3 years, 2 months old correctly discriminate the relative number of objects in two rows; between 3 years, 2 months and 4 years, 6 months they indicate a longer row with fewer objects to have "more"; after 4 years, 6 months they again discriminate correctly" (*Cognitive Capacity of Very Young Children*, p. 141). Initially younger children were not studied, because if at four years old a child could not conserve quantity, then a younger child presumably could not either.

1.1.4 Contextual perspective

In Chuka Division, learners with mental Challenged are still disadvantaged because there is only one school for them and the rest are units in regular schools with very few learners and inadequately trained personnel. The negative attitude towards these learners has contributed a lot to their performance because some teachers view them as low achievers.

Most of the primary schools have units of the mentally Challenged learners. The numbers of these learners who are registered in these units are large but you find that very few attend classes. Most of them are truants until they get motivated. Some schools have introduced the feeding programmes. In such like schools you get a large number of the mentally Challenged with good school attendance.

The community around do not bother so much with these learners. Most of the parents are forced to take their children to the assessment centers for placement. This may happen to some learners who are already past pre-primary age. So when you visit some of the units for the mentally Challenged learners you will find overgrown learners almost ten to fifteen years. This makes it very difficult for the teachers who are handling them because some may be required to be in a vocational class to be taught some skills which are beneficial to them when they leave school. The problem of most of the schools is that there are no vocational training classes. Those with classes lack enough trained teachers who can handle that.

These learners do not go far with classroom work. Most of them end up doing class three and drop out of school. They do not perform well and most of the teachers and the school community have negative attitudes towards them.

Kenny et al, (2002) states that teachers' attitudes towards students with disabilities have a significant impact on their educational attainment. While the law declares that children with disabilities should be included in an inclusive setting to an accepted or treated fairly by their teachers or peers, some teachers fail to understand that these learners are capable of performing other tasks outside academic work. Most of the time they are segregated and isolated by their peers. This makes the learners feel unwanted and thus they end up as school drops outs. At home, some parents also do not know how to handle them. Some are hidden in

dark corners or cages because they do not want to accept that they have such children. They end up being malnourished and unkempt. Most of them do not acquire acceptable behavior and language.

Derman-Sparks (1993) and Gleason (1991) States that the stereotypical views held about persons with disabilities affect development of children who receive both blatant and subtle messages that challenges their integrity as learners may never reach their fullest potential because of their exposure to prejudice and discrimination. All the same there is evidence that attitudes towards learners and people with disabilities are improving especially the mentally challenged (Longoria et al 2006).

Mental Challenged is caused by many factors; many of these are known, but others remain unidentified (The Arc, 2005). The link between the identification of specific causes of mental Challenged and the development and implementation of preventive measures is clear. When a cause is identified, ways to prevent the debilitating effects of cognitive disabilities have often followed soon after. But it takes action for solutions actually to prevent or reduce the impact of the condition.

According to The Arc, a parent organization advocating for individuals with mental Challenged, several hundred causes of mental Challenged have been discovered, but for about one-third of those affected the cause is unknown (The Arc, 2005). Of those known causes, three conditions explained later in this section are the most common reasons for mental Challenged: Down syndrome, Fragile X syndrome, Fetal alcohol syndrome

Many different systems for organizing the causes of mental Challenged can be applied. Sometimes they are divided into four groups: socioeconomic and environmental factors, injuries, infections and toxins, and biological causes. AAMR divide them instead into three groups by time of onset that is, by when the event or cause first occurred (AAMR, 2002):

Prenatal causes exert their effects before birth. Examples include genetic and heredity, toxins taken by the pregnant mother, disease, and neural tube defects.

Perinatal causes occur during the birthing process. They include birth injuries due to oxygen deprivation (anoxia or asphyxia), umbilical cord accidents, obstetrical trauma, and head trauma. They also include low birth weight. **Postnatal** causes

occur after birth. The environment is a major factor in many of these situations. Child abuse and neglect, environmental toxins, and accidents are examples of postnatal causes. An additional reason for being identified as having mental Challenged is societal biases, particularly toward diverse Pupils.

Poisons that lurk in the environment, **toxins**, are both prenatal and postnatal causes of mental Challenged, as well as of other disabilities. Many believe that the increased rates of attention deficit hyperactivity disorder, learning disabilities, and even autism are due to some interplay of genetics, environmental factors, and social factors (Office of Special Education Programs, 2000; Schettler et al., 2000). Clearly, exposures to toxins harm children and are a real source of disabilities. Here are two reasons why toxins deserve special attention. Low birth weight is a major risk factor for disabilities and is definitely associated, with poverty and with little or no access to prenatal care (Children's Defense Fun. [CDF], 2004).

Abused children have lower IQs and reduced response rates to cognitive stimuli (CDF, 2001, 2004). In one of the few studies of its kind, Canadian researchers compared abused children with those not abused, and the results of abuse became clear (Youth Record, 1995).

It is important to remember that many subjective reasons account for Pupils' placement in special education. There is little doubt that poverty and its risk factors are clearly linked to disabilities (CDF, 2004; National Research Council, 2002). It is also true that culturally and linguistically diverse children are overrepresented in some categories of special education (Hosp & Reschly, 2002, 2003; U.S.

Though there are so many causes of mental Challenged in pupils these can be prevented. Many cases of mental Challenged can be prevented by directly addressing the cause. According to The Are, because of advances in research over the last 30 years, many cases of mental Challenged are prevented (The Are, 2005). For example, each year 9,000 cases of mental Challenged are prevented via the measles and Hib vaccines. 1,250 cases via newborn screening for phenylketonuria (PKU) and congenital hypothyroidism, and 1,000 cases via the anti-RH immune globulin. Even more cases are preventable. Most of these strategies are simple and obvious, but the effects can be significant.

Education and access are at the heart of many prevention measures. For example, education about the prevention of HIV/AIDS can be effective with all adolescents, including those with mental Challenged (Johnson, Johnson, & Jefferson-Aker, 2001). Public education programs can also help pregnant women understand the importance of staying healthy. Other prevention strategies involve testing the expectant mother, analyzing the risk factors of the family (genetic history of disabilities or various conditions), and taking action when necessary; screening infants; protecting children from disease through vaccinations; creating positive, nurturing, and rich home and school environments; and implementing safety measures. Note that not all of these strategies are biological or medical. It is important to look at all aspects of the child and the environment.

Although some conditions or causes of mental Challenged cannot be prevented, at least at the present time, the impact of the condition can be reduced substantially. For example, we have seen that PKU is a genetic reason for mental Challenged but that it takes factors in the individual's environment for damage to be devastating. Infant screening can detect the problem. Here's how it works: In a procedure developed by Robert Guthrie in 1957, a few drops of the newborn's blood are taken from the heel to determine whether the infant has the inherited genetic disorder that prevents metabolizing phenylalanine, a naturally occurring amino acid found in milk. This test, which costs 3 cents, makes it possible to change any affected baby's diet before the disastrous effects of PKU can begin to mount. Guthrie developed the test because his son and his niece had PKU, and he wanted to prevent the condition from affecting others. In the past, PKU was responsible for 1 percent of all severe

cases of mental Challenged, nearly all of which are now identified and the severity of the problem substantially reduced (Schettler et al., 2000).

1.2 Statement of the Problem

Mental Challenged contributes to low performance of the learners who are mentally Challenged. Robin and Robinson (1976 P. 374) stated that the reduced capacity of the mentally Challenged to retain and recall information both in short term and long term memory is pronounced especially with regard to abstract materials. Several types of inclusive classrooms have been tested in research settings using various combinations of resources. Typical resources include smaller class size, teachers' aides or co-teachers, and frequent consultations with psychologists or other professionals to design interventions or adaptations for individual Pupils. These behavioral difficulties include consistently speaking out of turn or impulsively jumping out of one's seat, which is disruptive in the classroom, but not aggressive or dangerous. In Chuka Division, learners with mental Challenged are very few in the schools. The units which are in regular schools have very low enrollment. It is seldom a time-limited condition. Although many individuals with mental Challenged make tremendous advancements in adaptive skills (some to the point of functioning independently and no longer being considered under any disability category), most are affected throughout their life span (Hawkins, Eklund, James & Foose, 2003). Many children with mild Challenged are not identified until they enter school and sometimes not until the second or third grade, when more difficult academic work is required. Children with moderate Challenged show significant delays in development during their preschool years. As they grow older, discrepancies in overall intellectual development and adaptive functioning generally grow wider between these children and age mates without disabilities. People with moderate mental Challenged are more likely to have health and behavior problems than are individuals with mild Challenged. This study was thus carried out to examine environmental factors affecting the learning of pupils with mental Challenged in Chuka Division, Meru South District.

1.3 Purpose of the study

The purpose of the study was to investigate the relationship between environmental factors and learning of pupils with mental Challenged in Chuka Division, Meru South District.

1.4 Research Objectives

General objective

To correlate environmental factors and learning of pupils with mental Challenged in Chuka Division, Meru South, District Kenya.

1.5 Specific Objectives

1. To Assess the extent of environmental factors in Meru South District primary schools.
2. To determine the level of learning of pupils with mental Challenged in Meru South District primary schools.
3. To examine if there is a significant relationship between environmental factors and level of learning of pupils with mental Challenged in Meru South District Primary Schools.

1.6 Research Questions

1. What is the extent of environmental factors in Meru South district Primary Schools?
2. What is the level of learning of learners with mental Challenged in Meru South district primary schools?
3. Is there a significant relationship between the extent of environmental factors and level of learning of learners with mental Challenged in Meru South district primary schools?

1.7 Hypothesis

There is no significant relationship between the extent of environmental factors and the level of learning of pupils with mental Challenged in Meru South district primary schools.

1.8 Scope of the study

Geographical Scope

The study was carried out in ten primary schools in Meru South District, Kenya as a representative of other primary schools.

Theoretical scope

The study was guided by the theories of child development. These were the Theory of Cognitive Development by Piaget Jean (1960) and the Theory of Psychological Development by Erickson (Schultz 1981).

Content Scope

The variables of the study are environmental factors as independent variable and learning as dependent variables.

Time scope:

The study took a time period of seven months that is from March – November 2013.

1.9 Significance of the Study

The findings of this study will generate useful information which will enable the teachers to understand the learners with mental Challenged on how to adapt the curriculum to suit their learning needs. How to modify their behavior on and the use of relevant teaching resources. The findings will also help to create awareness to parents on the causes and prevention of mental Challenged for their children. Prevention of the social and physical barriers that hinder learning for their children. The findings will also act as a guide to the Ministry of Education on how to adopt the curriculum to suit the learning needs of Mentally Challenged learners and also identify some areas that can be improved in Regular schools and units in Chuka

Division, Meru South district. It will also assist future researchers on areas that were covered to enhance further research on areas that were not covered by this study.

Operational definition of Key Terms

The following terms as used in the study will carry the following operational meaning.

Mental Challenged significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the developmental period.

Environmental factors refers to a condition that affects the behavior and development of somebody or something. It can affect positively or negatively.

Learning – to gain knowledge or skills by studying, from experience, from being taught.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the concepts, opinions and ideas from authors and related studies.

2.1 Theoretical Review

The study was based on Theories of Child Development. The first one is the Theory of Cognitive Development by Jean Piaget (1960).

According to Jean Piaget's Theory of cognitive development, there are four stages that a child should go through in order to attain cognitive abilities. These developments occur in the same sequence for everyone but the ages at which the stages are reached depend on maturation and experiences. These stages are the Sensory Motor, Pre-Operational, Concrete and Formal.

The Sensory Motor Stage which begins between zero to two years is important in the development of the child. It is referred so because the child understands the environment through the use of the five senses. The child is involved in movement, manipulation and understanding the world by coordinating sensory experiences with physical actions. By the end of this period the child is able to move, grasp, imitate and explore, has also acquired language (Dworetzky, 1981).

Parents and teacher should always bear in mind that a child's interaction with the physical environment could increase the rate of development. The opportunity to observe and manipulate objects helps the child to think in more complex ways. Stimulating environment also play an important role in development of Mental skills in children. This may be achieved if children are provided with variety of relevant toys for play. Opportunities to play and interact with other children. Parents and teachers give meaningful attention to children under their care.

Children with mental Challenged most of the time have cognitive problems due to isolation, segregation and negative attitudes by the community around them.

They develop the sensory motor slowly, self help skills, communication and socialization skills may also be achieved at a slower rate.

The second theory is the Psychosocial Theory of Personality Development by Erickson according to Schultz (1981). This theory is concerned with relationships between needs of an individual and those of the society. A person's past and present social settings are considered as playing a crucial role of influencing ones personality. Erickson emphasized that culture, society and historical events have more effects on the development of personality. This refers to the way an individual responds to the world or carries oneself as a result of internal and external influences.

The influence of the family members and significant others on the growing child's personality is evident. Children with Mental Challenged are likely to experience emotional and behavioral problems if parents, teachers and peers make them feel unwanted, peculiar or incompetent. If they overly criticize, mock or humiliate them, or if they deny them opportunities to engage in play, social activities and household chores. If teachers fail to encourage and train them to acquire literacy skills of reading and writing. Also fail to train on expectations of the society in terms of their future adult roles. They should be assisted by providing the necessary knowledge and skills but their abilities taken into consideration so as to avoid frustrating the learner.

Jean Piaget defined himself as a 'genetic' epistemologist, interested in the process of the qualitative development of knowledge. He considered cognitive structures development as a differentiation of biological regulations. When Jean Piaget's entire theory first became known - the theory in itself being based on a structuralist and a cognitivist approach - it was an outstanding and exciting development in regards to the psychological community at that time. This structuralist-oriented theory took over the behaviorist and functionalist psychological approach which became popular at the time before Piaget's theories were announced.

There are a total of four phases in Piaget's research program that included books on certain topics of developmental psychology. In particular, one period of research

that Piaget wrote about in one of his books described him studying on his own three children and carefully observing and interpreting his children's cognitive development. In one of his last books, *Equilibration of Cognitive Structures: The Central Problem of Intellectual Development*, he intends to explain knowledge development as a process of equilibration using two main concepts in his theory, assimilation and accommodation, as belonging not only to biological interactions but also to cognitive ones.

Piaget believed answers for the epistemological questions at his time could be answered, or better proposed, if one looked to the genetic aspect of it, hence his experimentations with children and adolescents. As he says in the introduction of his book *Genetic Epistemology*: "What the genetic epistemology proposes is discovering the roots of the different varieties of knowledge, since its elementary forms, following to the next levels, including also the scientific knowledge."

The developmental process

Piaget provided no concise description of the development process as a whole. Broadly speaking it consisted of a cycle:

The child performs an action which has an effect on or organizes objects, and the child is able to note the characteristics of the action and its effects.

Through repeated actions, perhaps with variations or in different contexts or on different kinds of objects, the child is able to differentiate and integrate its elements and effects. This is the process of "reflecting abstraction" (described in detail in Piaget 2001).

At the same time, the child is able to identify the properties of objects by the way different kinds of action affect them. This is the process of "empirical abstraction".

By repeating this process across a wide range of objects and actions, the child establishes a new level of knowledge and insight. This is the process of forming a new "cognitive stage". This dual process allows the child to construct new ways of dealing with objects and new knowledge about objects themselves.

However, once the child has constructed these new kinds of knowledge, he or she starts to use them to create still more complex objects and to carry out still more complex actions. As a result, the child starts to recognize still more complex patterns and to construct still more complex objects. Thus a new stage begins, which will only be completed when all the child's activity and experience have been re-organized on this still higher level.

This process may not be wholly gradual, but new evidence shows that the passage into new stages is more gradual than once thought. Once a new level of organization, knowledge and insight proves to be effective, it will quickly be generalized to other areas *if they exist*. As a result, transitions between stages can seem to be rapid and radical, but oftentimes the child has grasped one aspect of the new stage of cognitive functioning but not addressed others. The bulk of the time spent in a new stage consists of refining this new cognitive level however it is not always happening quickly. For example, a child may learn that two different colors of Play-Doh have been fused together to make one ball, based on the color. However, if sugar is mixed into water or iced tea, then the sugar "disappeared" and therefore does not exist. These levels of one concept of cognitive development are not realized all at once, giving us a gradual realization of the world around us.

It is because this process takes this dialectical form, in which each new stage is created through the further differentiation, integration, and synthesis of new structures out of the old, that the sequence of cognitive stages are logically necessary rather than simply empirically correct. Each new stage emerges only because the child can take for granted the achievements of its predecessors, and yet there are still more sophisticated forms of knowledge and action that are capable of being developed.

Because it covers both how we gain knowledge about objects and our reflections on our own actions, Piaget's model of development explains a number of features of human knowledge that had never previously been accounted for. For example, by showing how children progressively enrich their understanding of things by acting on

and reflecting on the effects of their own previous knowledge, they are able to organize their knowledge in increasingly complex structures. Thus, once a young child can consistently and accurately recognize different kinds of animals, he or she then acquires the ability to organize the different kinds into higher groupings such as "birds", "fish", and so on. This is significant because they are now able to know things about a new animal simply on the basis of the fact that it is a bird – for example, that it will lay eggs.

At the same time, by reflecting on their own actions, the child develops an increasingly sophisticated awareness of the "rules" that govern in various ways. For example, it is by this route that Piaget explains this child's growing awareness of notions such as "right", "valid", "necessary", "proper", and so on. In other words, it is through the process of objectification, reflection and abstraction that the child constructs the principles on which action is not only effective or correct but also *justified*.

One of Piaget's most famous studies focused purely on the discriminative abilities of children between the ages of two and a half years old, and four and a half years old. He began the study by taking children of different ages and placing two lines of sweets, one with the sweets in a line spread further apart, and one with the same number of sweets in a line placed more closely together. He found that, "Children between 2 years, 6 months old and 3 years, 2 months old correctly discriminate the relative number of objects in two rows; between 3 years, 2 months and 4 years, 6 months they indicate a longer row with fewer objects to have "more"; after 4 years, 6 months they again discriminate correctly" (*Cognitive Capacity of Very Young Children*, p. 141). Initially younger children were not studied, because if at four years old a child could not conserve quantity, then a younger child presumably could not either. The results show however that children that are younger than three years and two months have quantity conservation, but as they get older they lose this quality, and do not recover it until four and a half years old. This attribute may be lost due to a temporary inability to solve because of an overdependence on

perceptual strategies, which correlates more candy with a longer line of candy, or due to the inability for a four-year-old to reverse situations.

According to Piaget, children use the process of assimilation and accommodation to create a schema or mental framework for how they perceive and/or interpret what they are experiencing. As a result, the early concepts of young children tend to be more global or general in nature.

Similarly, Gallagher and Reid (1981) maintained that adults view children's concepts as highly generalized and even inaccurate. With added experience, interactions, and maturity, these concepts become refined and more detailed. Overall, making sense of the world from a child's perspective is a very complex and time-consuming process.

Schemata are: Critically important building block of conceptual development, Constantly in the process of being modified or changed, Modified by on-going experiences, A generalized idea, usually based on experience or prior knowledge.

These schemata are constantly being revised and elaborated upon each time the child encounters new experiences. In doing this children create their own unique understanding of the world, interpret their own experiences and knowledge, and subsequently use this knowledge to solve more complex problems. In a neurological sense, the brain/mind is constantly working to build and rebuild itself as it takes in, adapts/modifies new information, and enhances understanding.

Piaget wanted to revolutionize the way research methods were conducted. Although he started researching with his colleagues using a traditional method of data collection, he was not fully satisfied with the results and wanted to keep trying to find new ways of researching using a combination of data, which included: naturalistic observation, psychometrics, and the psychiatric clinical examination, in order to have a less guided form of research that would produce more genuine results. As Piaget developed new research methods, he wrote a book called *The Language and Thought of the Child*, which aimed to synthesize the methods he was using in order to study the conclusion children drew from situations and how they

arrived to such conclusion. The main idea was to observe how children responded and articulated certain situations with their own reasoning, in order to examine their thought processes (Mayer, 2005).

Piaget administered a test in 15 boys with ages ranging from 10–14 years-old in which he asked participants to describe the relationship between a mix bouquet of flowers and a bouquet with flowers of the same color. The purpose of this study was to analyze the thinking process the boys had and to draw conclusions about the logic processes they had used, which was a psychometric technique of research. Piaget also used the psychoanalytic method initially developed by Sigmund Freud. The purpose of using such method was to examine the unconscious mind, as well as to continue parallel studies using different research methods. Psychoanalysis was later rejected by Piaget, as he thought it was insufficiently empirical (Mayer, 2005).

Piaget argued that children and adults used speech for different purposes. In order to confirm his argument, he experimented analyzing a child's interpretation of a story. In the experiment, the child listened to a story and then told a friend that same story in his/her own words. The purpose of this study was to examine how children verbalize and understand each other without adult intervention. Piaget wanted to examine the limits of naturalistic observation, in order to understand a child's reasoning. He realized the difficulty of studying children's thoughts, as it is hard to know if a child is pretending to believe their thoughts or not. Piaget was the pioneer researcher to examine children's conversations in a social context - starting from examining their speech and actions - where children were comfortable and spontaneous (Kose, 1987).

After conducting many studies, Piaget was able to find significant differences in the way adults and children reason; however, he was still unable to find the path of logic reasoning and the unspoken thoughts children had, which could allow him to study a child's intellectual development over time (Mayer, 2005). In his third book, *The Child's Conception of the World*, Piaget recognized the difficulties of his prior techniques and the importance of psychiatric clinical examination. The researcher

believed that the way clinical examinations were conducted influenced how a child's inner realities surfaced. Children would likely respond according to the way the research is conducted, the questions asked, or the familiarity they have with the environment. The clinical examination conducted for his third book provides a thorough investigation into a child's thinking process. An example of a question used to research such process was: "Can you see a thought?" (Mayer, 2005, p. 372).

Piaget recognized that psychometric tests had its limitations, as children were not able to provide the researcher with their deepest thoughts and inner intellect. It was also difficult to know if the results of child examination reflected what children believed or if it is just a pretend situation. For example, it is very difficult to know with certainty if a child who has a conversation with a toy believes the toy is alive or if the child is just pretending. Soon after drawing conclusions about psychometric studies, Piaget started developing the clinical method of examination. The clinical method included questioning a child and carefully examining their responses -in order to observe how the child reasoned according to the questions asked - and then examine the child's perception of the world through their responses. Piaget recognized the difficulties of interviewing a child and the importance of recognizing the difference between "liberated" versus "spontaneous" responses (Mayer, 2005, p. 372).

Criticism of Piaget's research methods

"The developmental theory of Jean Piaget has been criticized on the grounds that it is conceptually limited, empirically false, or philosophically and epistemologically untenable." (Lourenço & Machado, 1996, p. 143) Piaget responded to criticism by acknowledging that the vast majority of critics did not understand the outcomes he wished to obtain from his research (Lourenço & Machado, 1996).

As Piaget believed development was a universal process, his initial sample sizes were inadequate, particularly in the formulation of his theory of infant development. Piaget's theories of infant development were based on his observations of his own three children. While this clearly presents problems with the sample size, Piaget also probably introduced confounding variables and social desirability into his observations and his conclusions based on his observations. It is entirely possible

Piaget conditioned his children to respond in a desirable manner, so, rather than having an understanding of object permanence, his children might have learned to behave in a manner that indicated they understood object permanence. The sample was also very homogenous, as all three children had a similar genetic heritage and environment. Piaget did, however, have larger sample sizes during his later years. Piaget wanted to research in environments that would allow children to connect with some existing aspects of the world. The idea was to change the approach described in his book *The Child's Conception of the World* and move away from the vague questioning interviews. This new approach was described in his book *The Child's Conception of Physical Causality*, where children were presented with dilemmas and had to think of possible solutions on their own. Later, after carefully analyzing previous methods, Piaget developed a combination of naturalistic observation with clinical interviewing in his book *Judgment and Reasoning in the Child*, where a child's intellect was tested with questions and close monitoring. Piaget was convinced he had found a way to analyze and access a child's thoughts about the world in a very effective way. (Mayer, 2005) Piaget's research provided a combination of theoretical and practical research methods and it has offered a crucial contribution to the field of developmental psychology (Beilin, 1992). "Piaget is often criticized because his method of investigation, though somewhat modified in recent years, is still largely clinical". He observes a child's surroundings and behavior. He then comes up with a hypothesis testing it and focusing on both the surroundings and behavior after changing a little of the surrounding. (Phillips, 1969) Learning, then, can also be supported by instructors in an educational setting. Piaget specified that knowledge cannot truly be formed until the learner has matured the mental structures to which that learning is specific, and thereby development constrains learning. Nevertheless, knowledge can also be "built" by building on simpler operations and structures that have already been formed. Basing operations of an advanced structure on those of simpler structures thus scaffolds learning to build on operational abilities as they develop. Good teaching, then, is built around the operational abilities of the students such that they can excel in their operational stage and build on preexisting structures and abilities and thereby "build" learning.

Evidence of the effectiveness of a contemporary curricular design building on Piaget's theories of developmental progression and the support of maturing mental structures can be seen in Griffin and Case's "Number Worlds" curriculum. The curriculum works toward building a "central conceptual structure" of number sense in young children by building on five instructional processes, including aligning curriculum to the developmental sequencing of acquisition of specific skills. By outlining the developmental sequence of number sense, a conceptual structure is built and aligned to individual children as they develop.

Piaget's theory, however vital in understanding child psychology, did not go without scrutiny. A main figure whose ideas contradicted Piaget's ideas was the Russian psychologist Lev Vygotsky. Vygotsky stressed the importance of a child's cultural background as an effect to the stages of development. Because different cultures stress different social interactions, this challenged Piaget's theory that the hierarchy of learning development had to develop in succession. Vygotsky introduced the term Zone of proximal development as an overall task a child would have to develop that would be too difficult to develop alone.

Also, the so-called neo-Piagetian theories of cognitive development maintained that Piaget's theory does not do justice either to the underlying mechanisms of information processing that explain transition from stage to stage or individual differences in cognitive development. According to these theories, changes in information processing mechanisms, such as speed of processing and working memory, are responsible for ascension from stage to stage. Moreover, differences between individuals in these processes explain why some individuals develop faster than other individuals (Demetriou, 1998).

Over time, alternative theories of Child Development have been put forward, and empirical findings have done a lot to undermine Piaget's theories. For example Esther Thelen and colleagues found that babies would not make the A-not-B error if they had small weights added to their arms during the first phase of the experiment that were then removed before the second phase of the experiment. This minor

change should not impact babies' understanding of object permanence, so the difference that this makes to babies' performance on the A-not-B task cannot be explained by Piagetian theory. Thelen and colleagues also found that various other factors also influenced performance on the A-not-B task (including strength of memory trace, salience of targets, waiting time and stance), and proposed that this could be better explained using a dynamic systems theory approach than using Piagetian theory. Alison Gopnik and Betty Repacholi found that babies as young as 18 months old can understand that other people have desires, and that these desires could be very different from their own desires. This strongly contradicts Piaget's view that children are very egocentric at this age.

Cognitive development refers to the changes that occur in an individual's cognitive structures, abilities, and processes. Marcy Driscoll defines cognitive development as the transformation of the child's undifferentiated, unspecialized cognitive abilities into the adult's conceptual competence and problem-solving skill (Driscoll, 1994). However, what exactly changes with development? Piaget believed children's schemes, or logical mental structures, change with age and are initially action-based (sensorimotor) and later move to a mental (operational) level. (Driscoll, 1994). Further, Piaget believed the cognitive performance in children is directly associated with the cognitive development stage they are in. So, if a child were in the preoperational stage (age 2 to 6/7), he would not successfully be able to master tasks of a concrete operational stage (ages 6/7 to 11/12) child.

Piaget proposed this theory of childhood cognitive development in 1969. Since that time, there have been many criticisms of Piaget's theory. Most notably, developmental psychologists debate whether children actually go through these four stages in the way that Piaget proposed, and further that not all children reach the formal operation stage. Despite this criticism, Piaget has had a major influence on all modern developmental psychologists. In addition to his proposed idea that children's cognitive performance is directly related to the stage they are in, he proposed four major stages of development.

During the sensorimotor stage, infants and toddlers "think" with their eyes, ears, hands, and other sensorimotor equipment. Piaget said that a child's cognitive system is limited to motor reflexes at birth, but the child builds on these reflexes to develop more sophisticated procedures. They learn to generalize their activities to a wider range of situations and coordinate them into increasingly lengthy chains of behavior. At this age, according to Piaget, children acquire representational skills in the area of mental imagery, and especially language. They are very self-oriented, and have an egocentric view; that is, preoperational children can use these representational skills only to view the world from their own perspective.

As opposed to preoperational children, children in the concrete operations stage are able to take into account another person's point of view and consider more than one perspective simultaneously, with their thought process being more logical, flexible, and organized than in early childhood. They can also represent transformations as well as static situations. Although they can understand concrete problems, Piaget would argue that they cannot yet contemplate or solve abstract problems, and that they are not yet able to consider all of the logically possible outcomes. Children at this stage would have the ability to pass conservation (numerical), classification, seriation, and spatial reasoning tasks.

Persons who reach the formal operation stage are capable of thinking logically and abstractly. They can also reason theoretically. Piaget considered this the ultimate stage of development, and stated that although the children would still have to revise their knowledge base, their way of thinking was as powerful as it would get. According to Piaget, development is driven by the process of equilibration. Equilibration encompasses assimilation (i.e., people transform incoming information so that it fits within their existing schemes or thought patterns) and accommodation (i.e., people adapt their schemes to include incoming information). Piaget suggested that equilibration takes place in three phases.

First, children are satisfied with their mode of thought and therefore are in a state of equilibrium. Then, they become aware of the shortcomings in their existing thinking and are dissatisfied (i.e., are in a state of disequilibrium and experience cognitive

conflict). Last, they adopt a more sophisticated mode of thought that eliminates the shortcomings of the old one.

It is now thought that not every child reaches the formal operation stage. Developmental psychologists also debate whether children do go through the stages in the way that Piaget proposed. Whether Piaget was correct or not, however, it is safe to say that this theory of cognitive development has had a tremendous influence on all modern developmental psychologists.

More recent studies have cast some doubt on Piaget's theory of homogeneous performance within a given stage. Instead, it is now believed that performance varies greatly within each stage and depends more on the acquisition and development of language, perception, decision rules, and real-world knowledge for each individual child.

Piaget himself did not design instructional strategies, but educators have interpreted Piaget's theory to suggest broad instructional principles. If an educator is using a specific method, it is one that depends on his or her unique understanding of children's thinking (Driscoll, 1994). According to Marcy Driscoll, there are three basic instructional principles on which Piagetian theorists generally agree. (Driscoll, 1994).

- **Principle 1:** The learning environment should support the activity of the child (i.e., an active, discovery-oriented environment) (Driscoll, 1994).
- **Principle 2:** Children's interactions with their peers are an important source of cognitive development (i.e., peer teaching and social negotiation) (Driscoll, 1994).
- **Principle 3:** Adopt instructional strategies that make children aware of conflicts and inconsistencies in their thinking (i.e., conflict teaching and Socratic dialog) (Driscoll, 1994).

Specific instructional strategies include: modeling, coaching, scaffolding, fading, problem-based learning, authentic learning, anchored instruction, cognitive flexibility hypertexts, and object-based learning. Scaffolding is an effective way for the teacher to present the information in such a way that the children can easily understand it and continue to build upon previously acquired knowledge.

It is difficult for educators to apply Piaget's theory because experiments at the elementary and secondary classroom levels are difficult and expensive. Also, instructors have a difficult time understanding how to implement and evaluate Piaget's guidelines for education. However, the preschool level has allowed more room for experimentation, and wider acceptance due to less-defined curricular goals (Driscoll, 1994).

To have success with a constructivist classroom activity, it is important for the teacher to be a good facilitator. The teacher should encourage the students to make discoveries for themselves while conducting active dialog. For conceptual learning to occur, the teacher should seek to fuse the constructions of students and experts. By comparing and contrasting their constructions with experts' constructions, the students gain insights into both and begin to reconceptualize their constructions in the direction of those of the experts (Zahorik, 1997).

Development is the series of age-related changes that happen over the course of a life span. Several famous psychologists, including **Sigmund Freud**, **Erik Erikson**, **Jean Piaget**, and **Lawrence Kohlberg**, describe development as a series of stages. A **stage** is a period in development in which people exhibit typical behavior patterns and establish particular capacities. The various stage theories share three assumptions:

People pass through stages in a specific order, with each stage building on capacities developed in the previous stage. Stages are related to age. Development is discontinuous, with qualitatively different capacities emerging in each stage.

Like Freud, Erik Erikson believed in the importance of early childhood. However, Erikson believed that personality development happens over the entire course of a person's life. In the early 1960s, Erikson proposed a theory that describes eight distinct stages of development. According to Erikson, in each stage people face new challenges, and the stage's outcome depends on how people handle these challenges. Erikson named the stages according to these possible outcomes:

Stage 1: Trust vs. Mistrust

In the first year after birth, babies depend completely on adults for basic needs such as food, comfort, and warmth. If the caretakers meet these needs reliably, the

babies become attached and develop a sense of security. Otherwise, they may develop a mistrustful, insecure attitude.

Stage 2: Autonomy vs. Shame and Doubt

Between the ages of one and three, toddlers start to gain independence and learn skills such as toilet training, feeding themselves, and dressing themselves. Depending on how they face these challenges, toddlers can develop a sense of autonomy or a sense of doubt and shame about themselves.

Stage 3: Initiative vs. Guilt

Between the ages of three and six, children must learn to control their impulses and act in a socially responsible way. If they can do this effectively, children become more self-confident. If not, they may develop a strong sense of guilt.

Stage 4: Industry vs. Inferiority

Between the ages of six and twelve, children compete with peers in school and prepare to take on adult roles. They end this stage with either a sense of competence or a sense of inferiority.

Stage 5: Identity vs. Role Confusion

During adolescence, which is the period between puberty and adulthood, children try to determine their identity and their direction in life. Depending on their success, they either acquire a sense of identity or remain uncertain about their roles in life.

Stage 6: Intimacy vs. Isolation

In young adulthood, people face the challenge of developing intimate relationships with others. If they do not succeed, they may become isolated and lonely.

Stage 7: Generativity vs. Self-Absorption

As people reach middle adulthood, they work to become productive members of society, either through parenting or through their jobs. If they fail, they become overly self-absorbed.

Stage 8: Integrity vs. Despair

In old age, people examine their lives. They may either have a sense of contentment or be disappointed about their lives and fearful of the future.

Erikson's theory is useful because it addresses both personality stability and personality change. To some degree, personality is stable, because childhood experiences influence people even as adults. However, personality also changes and

develops over the life span as people face new challenges. The problem with Erikson's theory, as with many stage theories of development, is that he describes only a typical pattern. The theory doesn't acknowledge the many differences among individuals.

While conducting intelligence tests on children, Swiss psychologist Jean Piaget began to investigate how children think. According to Piaget, children's thought processes change as they mature physically and interact with the world around them. Piaget believed children develop **schema**, or mental models, to represent the world. As children learn, they expand and modify their schema through the processes of assimilation and accommodation. **Assimilation** is the broadening of an existing schema to include new information. **Accommodation** is the modification of a schema as new information is incorporated.

Example: Suppose a young boy knows his pet parrot is a bird. When he sees a robin outside and calls it a bird too, he exhibits assimilation, since he broadened his bird schema to include characteristics of both parrots and robins. His bird schema might be "all things that fly." Now suppose a bat flaps out at him one night and he shrieks, "Bird!" If he learns it was a bat that startled him, he'll have to modify his bird schema to "things that fly and have feathers." In modifying his definition, he enacts accommodation.

Piaget proposed that children go through four stages of cognitive development:

Stage 1: Sensorimotor Period

In this stage, which lasts from birth to roughly two years, children learn by using their senses and moving around. By the end of the sensorimotor period, children become capable of **symbolic thought**, which means they can represent objects in terms of mental symbols. More important, children achieve object permanence in this stage. **Object permanence** is the ability to recognize that an object can exist even when it's no longer perceived or in one's sight.

Example: If a three-month-old baby sees a ball, she'll probably be fascinated by it. But if someone hides the ball, the baby won't show any interest in looking for it. For a very young child, out of sight is literally out of mind. When the baby is older and

has acquired object permanence, she will start to look for things that are hidden because she will know that things can exist even when they can't be seen.

Stage 2: Preoperational Period

This stage lasts from about two to seven years of age. During this stage, children get better at symbolic thought, but they can't yet reason. According to Piaget, children aren't capable of conservation during this stage. **Conservation** is the ability to recognize that measurable physical features of objects, such as length, area, and volume, can be the same even when objects appear different.

Example: Suppose a researcher gives a three-year-old girl two full bottles of juice. The girl will agree that they both contain the same amount of juice. But if the researcher pours the contents of one bottle into a short, fat tumbler, the girl will then say that the bottle has more. She doesn't realize that the same volume of juice is conserved in the tumbler.

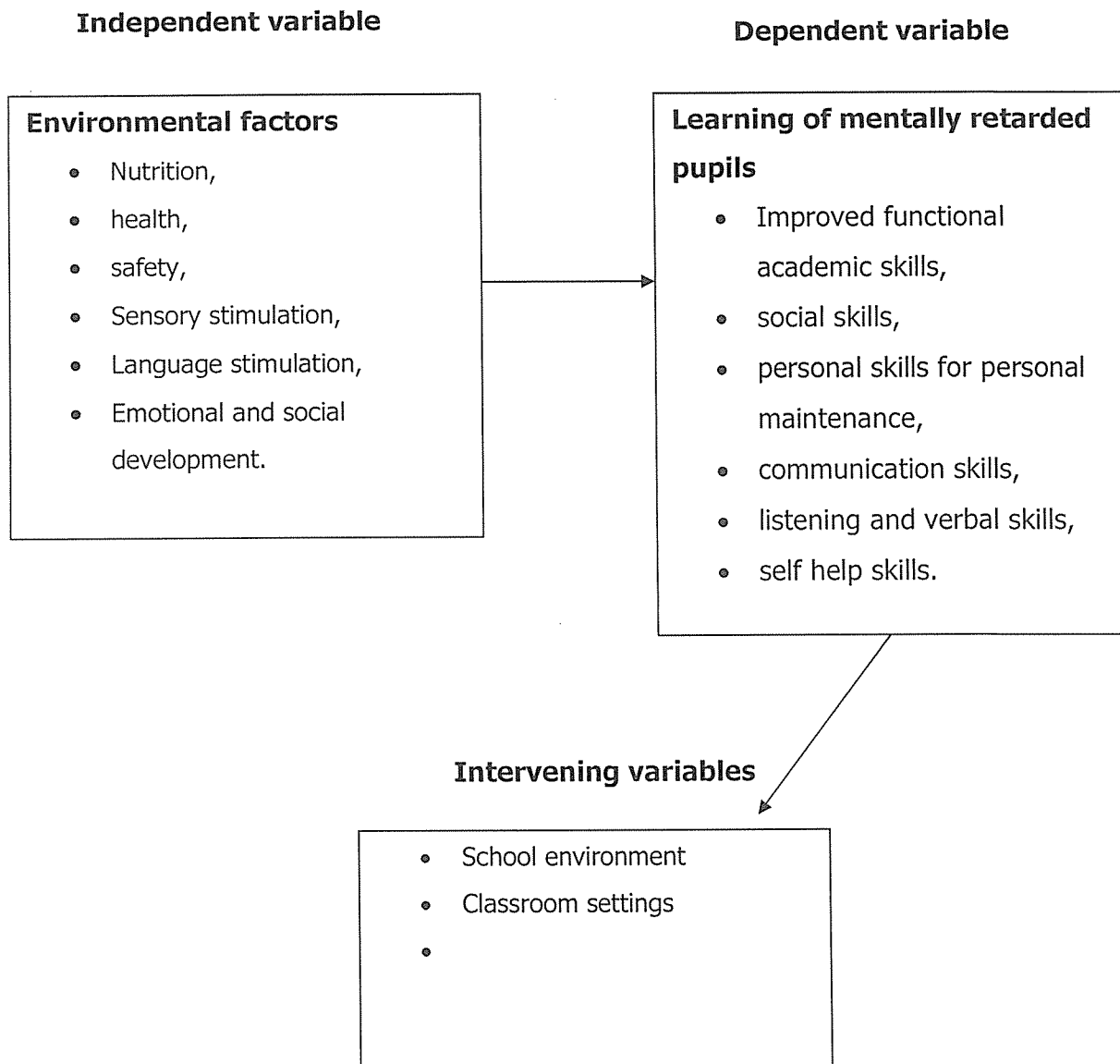
Piaget argued that children are not capable of conservation during the preoperational stage because of three weaknesses in the way they think. He called these weaknesses **centration**, **irreversibility**, and **egocentrism**:

Centration is the tendency to focus on one aspect of a problem and ignore other key aspects. In the example above, the three-year-old looks only at the higher juice level in the bottle and ignores the fact that the bottle is narrower than the tumbler. Because of centration, children in the preoperational stage cannot carry out **hierarchical classification**, which means they can't classify things according to more than one level.

Irreversibility is the inability to mentally reverse an operation. In the example, the three-year-old can't imagine pouring the juice from the tumbler back into the bottle. If she poured the juice back, she'd understand that the tumbler holds the same amount of liquid as the bottle.

Egocentrism is the inability to take someone else's point of view. **Animism**, or the belief that even inanimate objects are living, results from egocentrism. Children assume that since they are alive, all other things must be too.

2.2 Conceptual Framework



Source: Shelvin, M. O'Moore, A. M. (1999) *Fostering Positive Attitudes towards Young People with the Severest Disabilities*. Irish Educational Studies,18, 165-179.

From the above conceptual frame work we find that the independent variable which is environmental factors such as Nutrition, health, safety, Sensory stimulation, Language stimulation, Emotional and social development. which conditions influence the ability of learning of learners with mental Challenged such as Improved functional academic skills, social skills, personal skills for personal maintenance,

communication skills, listening and verbal skills, self help skills of which if not exhibited well lead to poor performance of learners with mental disabilities and if exhibited or if you put good environmental factors can lead to good performance of the learners with mental disabilities

2.3 Related Literature

Environmental factors

These are factors within the environment that influence or affect how a child learns. They may include nutrition, health, safety, sensory stimulation, language stimulation, emotional and social development.

Nutrition:

When a child is deprived of appropriate nutrition, his learning is affected and lead to mental Challenged. Mental Challenged can also result from metabolic, nutritional endocrine or growth dysfunction specifically, they include neuronal lipid storage diseases such as Tay-Sach's disease, carbohydrate disorder which interferes with brain metabolism, amino acids disorder such as phenylketonuria (PKU), and mineral disorders (Suran and Rizzo, 1979).

Learners with mental Challenged sometimes suffer from malnutrition. Malnutrition can occur to people who are either undernourished or over nourished. Some of the mentally Challenged learners suffer from undernourishment. This is because some of them come from poor families. Over nourishment can also occur to the mentally Challenged learners because some of them have cognitive problems regarding reasoning and judgment. They are not able to tell that they have eaten enough and should stop. Risk of over nutrition can lead to overweight (Alvarez-Leite, 2004).

Bryan, (2004) states that some of the causes of malnutrition in mentally Challenged learners could be as a result of poverty and lack of food, low income which leads to poor balancing of healthy food.

Health:

Ignored or neglected learners who live under unhealthy conditions and improper inadequate medical care are at a high risk. When a person swallows or absorbs or inhales Lead in any form, it can lead to learning disabilities or mental Challenged. It can also cause seizures or even death. Lead poisoning can be got by eating the flaking lead-based paints often found in older building (Mosby's Medical dictionary 2nd edition, 2009).

Some learners who might have not got the opportunity of getting immunization during, childhood can suffer from whooping cough, chicken pox, measles and it can affect their brain development and learning. Some physical agents which are beyond the mothers control like falls and injury can also lead to brain damages (Ndurumo,1993).

Some forms of mental Challenged have a physiological origin such as those which result from infections and intoxications, metabolic and chromosomal abnormalities and those which are as a result of gestational disorders. Suran and Rizzo (1979) states that there are no surgical procedures or miracles drugs but the implication is that mental Challenged can be prevented. So expectant mothers are advised to visit clinics and cooperate with the doctors and follow their pieces of advice.

Mentally Challenged learners who are already in school should be accorded the best medical care because most of them also suffer from other health impairments like seizures while some depend on others for assistance to use toilets, walk, feed and dress. The implications of additional handicaps are astounding because it means that intensives and comprehensives remediation programmes will need to be instituted.

Safety:

The safety of learners with mental Challenged is paramount. They are required to live in a least restrictive setting appropriate to their individual needs and abilities and in a variety of living situations. For example in a supervised protective environment. The school compound should be well fenced and free from moving vehicles. The school compound should be free from potholes, hills, stairs in order to provide easy

movement because some learners may suffer from low vision or cerebral palsy which interferes with coordination and movement. The school should have proper lockable gates with gatekeepers for security reasons. The classrooms should be free from sharp objects and should be large enough for easy movement in case of wheelchair users (Ndurumo, 1993).

Health and safety code on persons with mental Challenged Act (1991) states that these learners have the right not to be mistreated, neglected or abused by as service provider. So teachers should not neglect these learners. They have the right not to denied education even if they do not score high marks. They should be protected from exploitation and sexual harassment. They also have the right not to receive unnecessary or excessive medication.

Since learners with mental Challenged also suffer from other health impairments, the school should have an emergency service available in school like the first Aid kits and others like the sickbay.

Sensory and languages stimulation

Most learners with mental Challenged must have lacked the maternal sensory stimulation and suffer isolation and rejection during the early ages of life. Separation not only causes mental Challenged but also severe emotional disorders because interaction with other people is one of the cardinal requirements for emotional growth and development (Grossman, 1973). During the early stages of child development, the child is able to understand the world by co-ordinating sensory experiences with physical actions. The child is capable of moving, grasping, imitating and exploring. If they are not given opportunities to do all these, then they may not acquire any language.

Parents and teachers should always bear in mind that a child's interaction with the physical environment could increase the rate of development because the opportunity to observe and manipulate objects helps the child to think in more complex ways. These learners require enough playing facilities at school and to be involved in storytelling, turn taking, group activities in order to acquire languages. The classrooms should be enriched with enough teaching and learning materials. Parents should engage the learners in errands and households chores. All these can

help stimulate the senses of the learner and language acquisition (Mumbi Githaga, 2002). Most of the learners with mental Challenged lag behind their peers in normal language development. They delayed development in comprehension, receptive language, expressive and vocabulary. So they should be helped to acquire these skills (Robin and Robinson, 1976).

Emotional and Social Development

Emotions may be viewed as internal reactions or feelings, which may be either positive (such as joy) or negative (such as anger). For a child to develop physically, proper diet and exercise are necessary. Similarly, for good emotional development, love and security provided by parents or caregivers are regarded as important ingredients. Behaviours that express movement e.g.: gestures and facial expressions.

Emotions play the following roles:-

- They serve to organize and regulate the child's own behavior. For example, a child who succeeds in a given task will feel happy to practice it as opposed to one who repeatedly fails.
- Children's emotional state can influence their learning ability. For instance, a child who shows interest in a certain topic or subject, is likely to pay more attention during the lesson.
- Emotions serve to imitate, maintain or terminate interactions with others. Children's smiles, cries and attentive interest affects the behavior of other people in powerful way.

Some factors may cause emotional disorders in children. Rejection could be one of them. Children need to feel secure and loved by friends, teachers and family members. A child who is accepted in the school and home environment is likely to progress well due to the feeling of recognition.

Excessive fear could also interfere with development and learning of the child. A person who is who is afraid is likely to run away from the threatening situation which he or she is unable to cope with. Learners with mental Challenged may develop fear of the teacher or parent if they constantly experience harsh treatment.

Presence of physical or sensory impairment could be another factor that could affect the learner. They may develop emotional problems if they feel self conscious about their appearance.

Learners with mental Challenge are always affected with speech problems. This is another factor which might make them choose not to participate in learning activities which involve speech or any social gatherings (Mumbi Githang'a 2002).

Social interaction is a very important component of human development. Children who have no disabilities learn language, motor and cognitive skills through social interactions. Learners with mental Challenged are therefore limited in their opportunities throughout one's life if a comprehensive and structured training programme is not put in place (Shastri 1971)

Learners with mental Challenged have various problems like communication. Some of them are hyperactive and some are epileptic. These children may not take part in social age appropriate activities. If they do, their peers may take advantage of their low cognitive development and bully them or harass them. Stereotype behaviors and stigma may be the major problem of these learners. Some of the stereotype behaviors are like poor dressing, poor communication skills, odd social behavior and poor eating habits (Mayers et al 1979).

Parents and teachers could encourage learners with mental Challenged to interact through giving instructions in all social skill areas and placing them in inclusive schools. The family could organize family outings and also play among peers in the community and family members.

These learners also require adequate guidance and training them to be competent in social skills (Pati et al. 1996). If these learners are well trained and encouraged, they could enjoy the same opportunities like the regular learners.

Learning of the Mentally Challenged

Learning refers to gaining of knowledge or skill by studying, from experience, from being taught (Oxford Advanced Learners Dictionary 6th Edition).

In this study learning of the mentally Challenged learners will include: improved functional academic skills, social skills, personal skills for personal maintenance, communication skills, listening and verbal skills, self help skills.

External level of learning will involve joining vocational institutions for vocational training or engaging the learners in sheltered workshops which will enable them learn necessary work habits.

Learners with mental Challenged are classified into educable, trainable, and profoundly mentally Challenged. The educable are technically mild, the trainable are moderate and the profoundly Challenged have low intellectual functioning and are referred to as custodial Challenged. The educable are the largest group because they constitute between 75% and 80% (Payne et. al, 1977: Suran and Rizo, 1979).

Several general observations have been made regarding the learning characteristics of learners with mental Challenged. For instance, Robin and Robinson (1976) claims that learners with mental Challenged:-

- i) Are not alert to the cues necessary for solving problems.
- ii) Fail to differentiate irrelevant material from relevant ones in order to develop discriminating skills.
- iii) Do not ask strategic questions to find specific answers or information needed.
- iv) Fail to take into account the past experience and their outcomes.
- v) Are easily distracted by irrelevant environmental stimuli thereby failing to systematically focus on the relevant and essential information.
- vi) Are passive in utilizing their mental capacities to explore or solve problems.

Kirk (1972) stated that educable mentally Challenged are not ready to do basic writing, reading or arithmetic when they enter school at the age of six. These skills remain undeveloped until the age of 8 or 11 years.

According to Robin and Robinson (1976) the educable mentally Challenged are expected to manage academic work up to the third grade and even the sixth grade by the time they reach the school leaving age. They may not be able to read, write and even basic computations. This is because of their Intelligent Quotient level.

Robinson and Robinson (1976) and Haring (1978) observed that purely academic achievement is inappropriate for these learners. They stressed that the curriculum should emphasize social competence, occupational skills and self-care skills for social and occupational independence before leaving school. Because of the above findings, Klein et al (1979) provided the following guidelines to be used in teaching the Mentally Challenged learners in order to store and recall what they have learnt:-

- 1) Use labeling and verbal association to enhance learning.
- 2) Repeat and practice skills to promote over learning.
- 3) Break tasks down into small steps and present small amount of Information sequentially.
- 4) Select interesting and meaningful; tasks so that the learner will remain involved in the learning process
- 5) Teach the learner to use rehearsal strategies and practice them.
- 6) Provide an opportunity for the learner to practice skills in many contexts, through Multi-Sensory approach.
- 7) Use auditory and visual stimuli for rehearsal strategies. These have been found useful in assisting children to retain and recall what they have learnt.

Ellis (1963) stated that learners with mental Challenged have problems with short and long term memories. However with progressive practice and repetition, these learners are able to recall information.

These learners also have several disabilities which may interfere with learning. Processing information and adjusting to the environment can also interfere with their relations with their peers, teachers and also parents.

The trainable mentally Challenged are not expected to do the same academic work as their non-Challenged counter parts. They have intelligence Quotient level of between 20 and 49 and their curriculum should emphasize self help skills since their potential for academic work is limited.

Klein et al (1979) stated that the curriculum should facilitate the child's adjustment to the environment and neighborhood and his potential contribution to a sheltered vocational workshop in the community or in the institution.

According to Kirk (1972) the vocational oriented curriculum, self management, social adjustment skills are designed to assist the trainable mentally Challenged. Kirk and Gallagher (1985) stated that in the workshop, the mentally Challenged are controlled with industries for piece work and also develop and make valuable products. Although it is an acceptable idea for persons with Mental Challenged to be granted Vocational training, this is yet to be a reality for a successful career or job because of several factors.

- Lack of proper facilities to prepare persons with mental Challenged at school level.
- Lack of qualified personnel in vocational rehabilitation in special needs.
- Lack of feasibility in service provisions
- Segregated vocational training programmes
- Lack of transitional programmes
- Inappropriateness for typical career programmes for example stereo-type career choices such as basketry, leather work, tailoring.

As we are aware that most of the mentally Challenged learners cannot go beyond primary school level, the government should provide these facilities in primary school so that these learners can be self reliant.

The Custodian Mentally Challenged require Constant Care in residential institutions or at home. According to Klein et al (1979) the custodial Challenged group has no academic potential and very minimal potential for achieving sufficient basic self-care skills thus they require residential care and supervision throughout their life.

Robin and Robinson (1976), states that the litigative cases of the 1970s are now providing educational provisions for these learners. Some of the residential institutions are initiating some formal training in the areas of verbal communication, behavior management, motor skills and personal development. Efforts are being made to keep them busy and be able to communicate their needs or take minimal

care of them. Before these developments started, they were regarded as passive and people who could not even communicate their needs.

There is a myth that Mental Challenged is fixed and cannot be altered. Research has shown that when individuals are moved from the un stimulating environment of an institution to a more stimulating one, they alter their behavior as a result of the changes (Tizard, 1961-1964).

Heber and Garber (1975) conducted a study of the effects of parents socio-economic status on intellectual functioning. Since socioeconomic status determines the residence of individuals, it should be noted that there is a relationship between socio-economic status and environment.

In the study known as the Milwaukee project, a longitudinal investigation was made of children whose families were selected on the basis of their poverty and low intelligence. Forty newborns were used in the study. Twenty serving as experimental group and twenty as control group. The Milwaukee project and similar ones have shown that stimulating environments plays a significant role in reducing the incidence of Mental Challenged. Considering that 76% Challenged is due to environmental factors and that a high percentage of children are mildly Challenged. Environmental Management and stimulation should be encouraged. Early intervention and integration should also be encouraged.

Zeaman and House (1963) conducted a study on attention in discrimination learning. They came up with a two-stage model of learning where in the first stage subjects concentrated more on the stimulus while in the second stage they concentrated on learning. The aim of this was to ensure that the child orients himself to the features of stimulus or objects in the first stage. Then he identifies the relevant dimensions or features in the second stage, then be able to discriminate between relevant and irrelevant dimensions. This revealed that children with low mental age need to be given more time to orient themselves to the materials to be learned, the stimuli and the environment. After they have mastered the first stage they are able to proceed somewhat faster in learning the important aspect.

A commissioned survey of adults carried out by Siperste in et al (2000) in ten countries, states that adults held more pervasive misunderstanding and misbelieve

about individuals with intellectual disabilities for example 60% of adults Japanese considered that students with intellectual disabilities should be educated separately. Shelvin et al (1999) found out that young people in Ireland can feel distant from and uneasy around peers with disabilities particularly when other peers are mentally Challenged.

A 2004 study of special Olympics of the intellectually challenged learners middle school students from across Japan examined their beliefs and attitude towards students peers with intellectual disabilities (SO,2004), overall the students underestimated the capacities of students with them, but later found out that some of these learners could perform better in some of the games than the regular learners (Genesi,2007).

Characteristics of Children with Mental Challenged

Mental Challenged means substantial limitations in age-appropriate intellectual and adaptive behavior. It is seldom a time-limited condition. Although many individuals with mental Challenged make tremendous advancements in adaptive skills (some to the point of functioning independently and no longer being considered under any disability category), most are affected throughout their life span (Hawkins, Eklund, James & Foose, 2003).

Many children with mild Challenged are not identified until they enter school and sometimes not until the second or third grade, when more difficult academic work is required. Most Pupils with mild mental Challenged master academic skills up to about the sixth-grade level and are able to learn job skills well enough to support themselves independently or semi-independently. Some adults who have been identified with mild mental Challenged develop excellent social and communication skills and once they leave school are no longer recognized as having a disability.

Children with moderate Challenged show significant delays in development during their preschool years. As they grow older, discrepancies in overall intellectual development and adaptive functioning generally grow wider between these children and age mates without disabilities. People with moderate mental Challenged are more likely to have health and behavior problems than are individuals with mild Challenged.

Individuals with severe and profound mental Challenged are almost always identified at birth or shortly afterward. Most of these infants have significant central nervous system damage, and many have additional disabilities and/or health conditions. Although IQ scores can serve as the basis for differentiating severe and profound Challenged from one another, the difference is primarily one of functional impairment.

Cognitive Functioning

Deficits in cognitive functioning and learning styles characteristic of individuals with mental Challenged include poor memory, slow learning rates, attention problems, difficulty generalizing what they have learned, and lack of motivation.

Memory.

Pupils with mental Challenged have difficulty remembering information. As would be expected, the more severe the cognitive impairment, the greater the deficits in memory. In particular, research has found that Pupils with mental Challenged have trouble retaining information in short-term memory (Bray, Fletcher, & Turner, 1997). Short-term memory, or working memory, is the ability to recall and use information that was encountered just a few seconds to a couple of hours earlier—for example, remembering a specific sequence of job tasks an employer stated just a few minutes earlier. Merrill (1990) reports that Pupils with mental Challenged require more time than their nondisabled peers to automatically recall information and therefore have more difficulty handling larger amounts of cognitive information at one time. Early researchers suggested that once persons with mental Challenged learned a specific item of information sufficiently to commit it to long-term memory—information recalled after a period of days or weeks—they retained that information about as well as persons without Challenged (Belmont, 1966; Ellis, 1963).

More recent research on memory abilities of persons with mental Challenged has focused on teaching metacognitive or executive control strategies, such as rehearsing and organizing information into related sets, which many children without disabilities learn to do naturally (Bebko & Luhaorg, 1998). Pupils with mental Challenged do not tend to use such strategies spontaneously but can be taught to

do so with improved performance on memory-related and problem-solving tasks as an outcome of such strategy instruction (Hughes & Rusch, 1989; Merrill, 1990).

Learning Rate.

The rate at which individuals with mental Challenged acquire new knowledge and skills is well below that of typically developing children. A frequently used measure of learning rate is trials to criterion—the number of practice or instructional trials needed before a Pupil can respond correctly without prompts or assistance. For example, while just 2 or 3 trials with feedback may be required for a typically developing child to learn to discriminate between two geometric forms, a child with mental Challenged may need 20 to 30 or more trials to learn the same discrimination.

Because Pupils with mental Challenged learn more slowly, some educators have assumed that instruction should be slowed down to match their lower rate of learning. Research has shown, however, that Pupils with mental Challenged benefit from opportunities to learn to “go fast” (Miller, Hall, & Heward, 1995).

Attention.

The ability to attend to critical features of a task (e.g., to the outline of geometric shapes instead of dimensions such as their color or position on the page) is a characteristic of efficient learners. Pupils with mental Challenged often have trouble attending to relevant features of a learning task and instead may focus on distracting irrelevant stimuli. In addition, individuals with mental Challenged often have difficulty sustaining attention to learning tasks (Zeaman & House, 1979). These attention problems compound and contribute to a Pupil’s difficulties in acquiring, remembering, and generalizing new knowledge and skills.

Effective instructional design for Pupils with mental Challenged must systematically control for the presence and saliency of critical stimulus dimensions as well as the presence and effects of distracting stimuli. After initially directing a Pupil’s attention to the most relevant feature of a simplified task and reinforcing correct responses, the complexity and difficulty of the task can gradually be increased. A Pupil’s

selective and sustained attention to relevant stimuli will improve as he experiences success for doing so.

Generalization of Learning.

Pupils with disabilities, especially those with mental Challenged, often have trouble using their new knowledge and skills in settings or situations that differ from the context in which they first learned those skills. Such transfer or generalization of learning occurs without explicit programming for many children without disabilities but may not be evident in Pupils with mental Challenged without specific programming to facilitate it. Researchers and educators are no longer satisfied by demonstrations that individuals with mental Challenged can initially acquire new knowledge or skills. One of the most important and challenging areas of contemporary research in special education is the search for strategies and tactics for promoting the generalization and maintenance of learning by individuals with mental Challenged. Some of the findings of that research are described later in this chapter and throughout this text.

Motivation.

Some Pupils with mental Challenged exhibit an apparent lack of interest in learning or problem-solving tasks (Switzky, 1997). Some individuals with mental Challenged develop learned helplessness, a condition in which a person who has experienced repeated failure comes to expect failure regardless of his or her efforts. In an attempt to minimize or offset failure, the person may set extremely low expectations for himself and not appear to try very hard. When faced with a difficult task or problem, some individuals with mental Challenged may quickly give up and turn to or wait for others to help them. Some acquire a problem-solving approach called outer-directedness, in which they seem to distrust their own responses to situations and rely on others for assistance and solutions.

Rather than an inherent characteristic of mental Challenged, the apparent lack of motivation may be the product of frequent failure and prompt dependency acquired as the result of other people's doing things for them. After successful experiences, individuals with mental Challenged do not differ from persons without mental

Challenged on measures of outer-directedness (Bybee & Zigler, 1998). The current emphasis on teaching self-determination skills to Pupils with mental Challenged is critical in helping them to become self-reliant problem solvers who act upon their world rather than passively wait to be acted upon (Wehmeyer, Martin, & Sands, 1998).

By definition children with mental Challenged have substantial deficits in adaptive behavior. These limitations can take many forms and tend to occur across domains of functioning. Limitations in self-care skills and social relationships as well as behavioral excesses are common characteristics of individuals with mental Challenged.

Self-Care and Daily Living Skills.

Individuals with mental Challenged who require extensive supports must often be taught basic self-care skills such as dressing, eating, and hygiene. Direct instruction and environmental supports such as added prompts and simplified routines are necessary to ensure that deficits in these adaptive areas do not come to seriously limit one's quality of life. Most children with milder forms of mental Challenged learn how to take care of their basic needs, but they often require training in self-management skills to achieve the levels of performance necessary for eventual independent living.

Social Development.

Making and sustaining friendships and personal relationships present significant challenges for many persons with mental Challenged. Limited cognitive processing skills, poor language development, and unusual or inappropriate behaviors can seriously impede interacting with others. It is difficult at best for someone who is not a professional educator or staff person to want to spend the time necessary to get to know a person who stands too close, interrupts frequently, does not maintain eye contact, and strays from the conversational topic. Teaching Pupils with mental Challenged appropriate social and interpersonal skills is one of the most important functions of special education.

Behavioral Excesses and Challenging Behavior.

Pupils with mental Challenged are more likely to exhibit behavior problems than are children without disabilities. Difficulties accepting criticism, limited self-control, and bizarre and inappropriate behaviors such as aggression or self-injury are often observed in children with mental Challenged. Some of the genetic syndromes associated with mental Challenged tend to include abnormal behavior (e.g., children with Prader-Willi syndrome often engage in self-injurious or obsessive-compulsive behavior). In general, the more severe the Challenged, the higher the incidence of behavior problems. Individuals with mental Challenged and psychiatric conditions requiring mental health supports are known as "dual diagnosis" cases. Data from one report showed that approximately 10% of all persons with mental Challenged served by the state of California were dually diagnosed (Borthwick-Duffy & Eyman, 1990). Although there are comprehensive guidelines available for treating psychiatric and behavioral problems of persons with mental Challenged (Rush & Francis, 2000), much more research is needed on how best to support this population.

Positive Attributes

Descriptions of the intellectual functioning and adaptive behavior of individuals with mental Challenged focus on limitations and deficits and paint a picture of a monolithic group of people whose most important characteristics revolve around the absence of desirable traits. But individuals with mental Challenged are a huge and disparate group composed of people with highly individual personalities (Smith & Mitchell, 2001b). Many children and adults with mental Challenged display tenacity and curiosity in learning, get along well with others, and are positive influences on those around them (Reiss & Reiss, 2004; Smith, 2000).

Summary of gaps identified from the previous studies.

There have been various studies in the field of learning of the mentally Challenged learners. Many of them have focused on societal negative attitudes towards them which has become a hindrance to the learners social life and education. A study by Genesi (2007) found out that these learners can perform in

games. He has not come out clearly on their classroom learning and acquisition of self help skills which can make them self reliant.

Herber and Garber(1975) equally attempts to elucidate on the point of reducing incidents of Challenged through environmental management and stimulation but fails to talk of the health care ,provision of good nutrition for brain development and learning in and outside classroom.

Kenny et al(2000) makes effort to elucidate on legal mandate that declares children with disability to be included in regular classrooms and learn alongside with their regular learners. But he fails to understand that inclusion can fail due to rejection by peers and teachers.

Lack of learning and teaching resources which are appropriate to these learners. Lack of conducive learning environment can hinder learning to take place. This study will therefore attempt to bridge those gaps as well as critically focus on environmental factors and learning of pupils with mental Challenged.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This section highlights the overall plan for executing the study; it gives light to the research design, study population, data collection, methods, sampling techniques, data presentation, analysis and the limitation of the study.

3.1 Research Design

The research design be used a cross sectional survey design. Both quantitative and qualitative methods of data collection .The researcher use a self administered questionnaire and interviews together for necessary data for the research. The study used the survey design because the research wanted to get precise information and make a conclusive result regarding the conflict and service delivery. According to Mugenda and Mugenda (2003) the survey design is the best methods available to social scientist who are interested in collecting original data for the purpose of describing a population which is large to observe directly.

This study employed the descriptive correlation survey, cross-sectional and ex-facto designs with quantitative approach. It was descriptive as it intended to describe the environmental factors which the primary schools use and how the primary schools perceive the levels of learning of the mentally Challenged learners and whether they get what they are supposed to get. The study was partly causal because it intends to find out the relationship between the learning factors and the learning of the mentally Challenged pupils in primary schools.

It will be correlation because it intends to relate each environmental factor to way they influence the learning of mentally Challenged pupils in primary schools.

It will be cross- sectional as the data will be collected from the schools, teachers at once (Marie & Olsen,2004).It will be ex-post facto as the researcher has no control over variables because the study reports only what is taking place (Cooper& Devaus ,1996).The study is quantitative in that variables will be measured and analyzed using numbers, hypotheses pre-determined, a population and procedure defined ,with the schools, teachers and pupils as a major source of data.

The quantitative approach will be used to test and verify the truth of the theory adopted for this study on the independent and dependent variables (Creswell,2003).

3.2 Research Population

Target population

The target population of the study comprised of 200 teachers in 10 primary schools. This was in selected primary schools in Chuka Division. This was through simple random selection as shown below.

Table 1: Target Population and Sample Size

Schools	Target Population	Minimum Sample Size
1) Chuka Township Primary School	28	19
2) Ndagani Primary School	17	11
3) Kibumbu Primary School	25	17
4) Mubukuro Primary School	15	10
5) Kangutu Primary School	17	11
6) Eriani Primary School	16	11
7) Mungoni Primary School	20	13
8) Kiangondu Primary School	24	16
9) Kathigiririni Primary School	18	12
10) Kangoro Primary School	20	13
Total	200	133

3.3 Sample Size

Using the Slovens formula, a minimum sample size of 133 respondents was included in this study.

$$n = \frac{N}{1 + N (r^2)}$$

Legend

N = Population

n = Sample size

r² = level of significance (0.05)

$$n = \frac{200}{1 + 200 (0.05)^2} =$$

$$n = \frac{200}{1 + 0.0025} .$$

$$n = \frac{200}{1.5} = 133$$

n = 133.

Sample size 133.

3.4 Sampling Procedure

Purposive sampling of teachers/participants was used. This is because of their education level. Likewise the teachers are the ones dealing with the learners. The sampling procedures used gave accurate and reliable samples that provided quantitative and qualitative data on environmental factors and the learning of the mentally challenged pupils in primary schools, simple random techniques and purposive sampling used to reduce bias of research and also ensure that the respondent with required knowledge are interviewed respectively; this is in accordance to a Amin ,2005. Simple random sampling used to select school, while purposive sampling procedures was used to select teachers. these sample provided both quantitative and qualitative data .it thus used to collect qualitative data on all the three research question using closed ended question in the questionnaire and qualitative data on all the three research question was be collected using closed ended question in both the interview guide and questionnaire .in this case simple random sampling was used to select learners to respond to questions in the questionnaire. While purposive sampling techniques was used to select teachers to

be interviewed. The advantages is that this techniques ensures that information on environmental factors and the learning of the mentally challenged is collected from the sample size composed of different respondents categories which is in accordance with Amin ,(2005) ; Sekaran (2004) and Uganda and mugenda ,1999 who contended that the selection of sample from different categories in the population allows assessment of needs at each sub level of the population.

3.5 Research Instruments

The researcher used the self-administered questionnaires as the major research instrument during this study. The researcher preferred using the questionnaires as a tool because all the respondents were literate.

The questionnaire to measure the extent of environmental factors on mental Challenged was non standardized/researcher devised tool (15 items) with response modes and scoring system as follows; strongly agree (4); agree (3); disagree (2); strongly disagree (1). The questionnaire for the level of performance of learners with mental Challenged was also non standardized/researcher devised with (15 items) following the same scoring system.

The study used both standardized and non-standardized instruments. Questions on environmental factors were standardized and were adopted from SERVQUAL model designed by Parasuraman et al (1988). Questions on learning of mentally Challenged learners were non-standardized. Each questionnaire consisted of a title and introduction.

The questionnaire was used to collect both numerical and in depth data on the entire three research question using closed ended questions .This is because questionnaire can generate statistical data using closed ended questions and in depth data using semi structured and open-ended questions Amin,2005.

The open ended and semi structured questions will collect qualitative ,in depth information on all the three research questions ; this is the agreement with Mugenda and Mugenda ,1999 who state semi structured and open ended questions provides for greater depths of response . On the other hand closed ended questions was also be used on the entire three questions to collect quantitative data so as to measure and generalize finding on the population. The questionnaire was

administered to the teachers because they are the possible target for environmental factors and learning of the mentally challenged pupils in primary schools.

Interview guide

Interview guide used to get in the depth understanding of environmental factors and learning of the mentally challenged pupils in primary schools. This was mainly provide in depth data for all the three research question .A list predetermined questions will be prepared and used for the structured interviews.

Secondary data

Krishna swami (2002:203) defines secondary data as sources which have been collected and compiled for another purposes. It consists of readily available documents already compiled statistical statements and reports whose data may be used researcher for their studies. Example includes census reports and annual reports. Secondary data consists of published and unpublished records and reports (Krishnaswami, 2002:199). Advantages of secondary data are:

This data is available, can be secured quickly and easily.

It may cover wider geographical area and longer reference period without much cost. The use of secondary data broadens the data base from which scientific generalization can be made. In order to get data for this study, a combination of primary and secondary data was used.

3.6 Validity and Reliability of the Research Instruments

According to Moser and Kalton (1971), validity is the success of a scale in measuring what it was set out to measure so that differences individual scores can be taken as representing true differences in characteristic under study.

The researcher consulted with her supervisor who ensures the relevance and suitability of the content in the questionnaire which provide coverage of the objectives of the study. The validity of the question was checked by the response acquired and the content validity index (CVI). The validity of the questionnaire acquired was ensured by employing the formula suggested by Handy (2007)

$$V = \frac{RQ}{TQ}$$

$$V = \frac{27}{36} = 0.75$$

Where V = validity

RQ = Relevant Question

TQ = Total number of questions

The number of relevant question by the total number of question should be 0.75 for an instrument to be valid.

Reliability of the instrument

Reliability is the measure of the degree to a research instrument yields consistent results after repeated trials. According to Christensen (1988), reliability of the questionnaire, the researcher employed the methods of expert judgment and pretest in order to test and improve the reliability of the questionnaire.

Pre testing of the research instrument

Research instruments was developed and first discussed with the supervisor at KIU and the district Educational officer of Kenya before pre testing on selected respondents of the schools under similar situation as those of the sample.

Review of the instruments by more experienced people and field testing on appropriate population that increased reliability of the research instruments (Kakooza 1996) respondents who took part in the pre testing of the questionnaire did take part in the final study. After the pre-testing inconsistency of questions was corrected, ambiguous questions were notified and clarified to ensure that research questions are clear, understood and are asking the intended questions that provide answers to be used to draw conclusions on the relationship between environmental factors and the learning of the mentally challenged learners in primary schools meru- South District, Kenya. Pre testing the instrument enhance their reliability and validity. According to Mugenda and Mugenda (1999), the number of individual in the pretest should be small, between 1%to 10 % of the sample size. In this study,

pretest of the questionnaire will be done on 2 % of the sample population which will be five people. The interview guide will be pre tested on two teachers to ensure the questions are clear and understood.

3.7 Data gathering procedures

Before administering of the questionnaire:

The researcher secured an introduction letter from the college of Higher Degree and Research of Kampala International University to conduct this research. The questionnaires were prepared for distribution and research assistants were identified, briefed and oriented by the researcher on the data gathering procedures.

During, the administration of the questionnaire:

The researcher oriented the participants on how to fill out the questionnaire properly, requested them to be as objective as possible in answering the questionnaires and not to leave any item unanswered, and set the deadline for retrieving the questionnaires. The researcher ensured that all response guidelines were followed.

After the administering of the questionnaire:

The researcher then segregated the fully completed questionnaire, collated, organized and encoded into the computer using the statistical package for social sciences for data processing and analysis.

3.8 Data Analysis

The data was analyzed using descriptive statistics which describes the basic features of data quantitatively. The researcher computed the correlations between the environmental factors and learning of mentally Challenged learners.

3.9 Ethical Considerations

The researcher ensured that ethical standards were complied by doing the following (1) coding all the questionnaires (2) the respondents were requested to

sign the informed consent form; (3) the authors mentioned in this study were acknowledged within the text; (4) findings were presented in a generalized manner.

3.10 Limitations of the study

The main limitation to the study arose mainly as a result of the various categories of respondents withholding and falsifying information .This however was overcome through strict adherence to the ethical norms expected of an academic research with an aim of making respondents build confidence in the researcher, hence making them freely release the anticipated information.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter was a presentation of data, analysis and interpretation of results which were organized in tables based on study objectives. The chapter also entailed testing of the stated null hypothesis and discussion of findings. Data on objectives was presented as follows.

4.2 The level of environmental factors.

The first objective was set to assess the level of environmental factors on mental Challenged in selected primary school in Meru- south District for which the researcher intended to find out how these environmental factors affect the learning of the mentally Challenged learners in schools. The environmental factors were broken into three factors:- these are nutrition and health in the school, safety in the school and sensory, emotional and social stimulation.

In this study, all the three aspects were measured using 15 quantitative questions in which respondents were required to indicate the extent to which they agree or disagree with each statement by indicating the numbers that best describe their perceptions. All the fifteen items on environmental factors were scaled using four points ranging between 1= strongly disagree 2= disagree 3=agree 4. Strongly disagree. There responses were analyzed and described using means as summarized in table 2

Table 2: level of environmental factors

Indicator	Mean	Interpretation	Rank
Nutrition and health in the school			
Have enough latrines which are adapted and clean.	2.70	High	3
Have clean classrooms regular cleaning is done	2.73	High	2
Provide boiled water or add safeguard/chlorine tablets or filter	2.16	Low	5
Learners feed on one type of food	2.90	High	1
Provision of food is done regularly	2.39	Low	4
Average mean	2.57	High	
Safety in the school			
The school compound is well fenced	2.79	High	1
The school environment is free from physical barriers e.g. pot holes, hills stairs	2.67	High	2
Class rooms free from sharp objects	2.79	High	1
Emergency services available in school	2.24	Low	3
Have enough security guards/ gate keepers	2.21	Low	4
Average mean	2.54	High	
Sensory, emotional and social stimulation			
Have enough playing facilities at school	2.94		1
Learners make and keep friends	2.68	High	2
Teachers have negative attitudes towards learners	2.63	High	3
Parents provide supportive materials for their learner	2.20	Low	5
Enriched classrooms with enough materials available	2.34	Low	4
Average mean	2.56		
Overall average mean	2.56	High	

Source: Primary data 2013

The means in table 2 indicate that the level of environmental factors in schools were rated at different levels. Out of the categories, nutrition and health in the school had a mean of 2.57 which was rated high, followed by safety in the school 2.54 high and sensory, emotional and social stimulation 2.56 which was also high. Under nutrition and health in the school, the average rating showed that of the 5 items, 3 were rated high (equivalent to agree) and the remaining two were rated low (equivalent to disagree). Safety in the school had also three items rated high (equivalent to agree) and two rated low equivalent to disagree. Lastly with sensory, emotional and social stimulation, three items were rated high and two rated low. When you sum up all the three categories, the overall average mean is (2.56) which is used and thus basing on these results, it can be concluded that environmental factors influence the learning of the mentally Challenged learners in the schools. Items which were highly rated among others included having enough playing facilities in school and under sensory and emotional stimulation (mean 2.94), followed by feeding of learners on one type of food under nutrition and health in school. Mean (2.90) lastly also under safety in the school, the fencing of the school compound was rated high mean (2.79) which also tied with classrooms which are free from sharp objects and mean belonged to different categories.

The highest from sensory and emotional stimulation, followed by nutrition and health in school and lastly from safety in the school. The findings conclude that there is a high degree of stimulating the senses of the learners by providing enough playing facilities in schools. If this is maintained it will contribute to the good performance of learners with mental Challenged in Meru south schools.

Secondly the feeding of learners on one type of food under nutrition and health in school is high. These findings conclude that learners should be made to feed on balanced diet and not one type of food. For their brain development, balanced diet is paramount.

However the study rated six items low and these were that if school provide boiled water or add safeguard/ chlorine tablets or filter the water (mean 2.16) followed by

provision of food is done regularly (mean 2.39). Emergency services available in school (mean 2.24)

Also have enough security guards/ gate keepers (mean 2.21), parents provide supportive materials for their learners (mean 2.20) and lastly enriched classrooms with enough materials available (mean 2.24)

The findings safe and clean water in schools is very low. These could lead to water borne diseases in schools. Also provision of food is not done regularly in schools. These could lead to malnutrition and some learners dropping out of school because mentally Challenged learners are all attracted to where they get food all the time. Also emergency services availability in schools are very low. This could help in handling some of the emergency cases because some of the mentally Challenged learners also suffer from health impairments.

Security guards and gate keepers are not enough according to the rating. The security guards are important in schools because mentally Challenged learners always make hasty decision. Some may get lost by walking away during break time.

Lastly parents are advised to provide supportive materials for their learners for the learning to take place smoothly. These gives us a picture that despite the schools in Meru-south scoring well in other categories, there is much effort needed to improve the environment in learning related matters.

4.3 Level of learning of pupils with mental Challenged

The second objective was to determine the level of learning of pupils with mental Challenged in Meru south district primary schools.

The level of learning was measured using 15 quantitative questions in which respondents were requested to indicate the extent to which they agree or disagree with the statement by writing the number that best describes their perception. Each of the items on the questionnaires was rated with the aid of four response mode

Subjects ranging between one to four; where 1=strongly disagree, 3=agree; 4=strongly agree these response were described using means as summarized in table 3

Table 3: Level of learning of pupils with mental Challenged

Indicator	Mean	Interpretation	Rank
Learning of learners in class and outdoor activities			
Recognition of letters	0.31	Poor	7
Matching objects	0.28	Poor	4
Drawing simple patterns	0.33	Poor	8
Using balls during play	0.41	Poor	11
Sorting beans/cereals, threading beans	0.36	Poor	9
Can follow direction from left to right	0.30	Poor	5
Count objects	0.30	Poor	5
Interact with peers in greetings, turn taking, story telling	0.47	Poor	15
Sweep using brooms, use mops to clean class	0.43	Poor	13
Group activities, construction, modeling, stacking toys	0.43	Poor	13
Self help skills eating, toileting, use handkerchiefs, brushing teeth, dressing, bathing	0.27	Poor	3
Prevocational and vocational skills-threading needles, sewing, knitting	0.37	Poor	10
Digging, planting, cultivating	0.25	Poor	1
Cultural skills, drumming, singing, dancing	0.25	Poor	1
National exam achievers	0.41	Poor	11
Total	5.17		
Average Mean	0.34	Poor	8

Source: Primary data 2013

The results in table 3 revealed that there are different levels of learning of pupils with mental Challenged on average, the rating was poor (mean 0.34). the findings was done by studying the number of learners who did well between 2011 and 2012.

On over all interaction with peers in greetings, turn taking, story telling which was poor but the best among the 15 items, followed by group activities construction, modeling, stacking toys (mean 0.43) this one also tied with sweeping using (mean 0.43). using balls during play (mean 0.41) and national exam achievers (mean 0.41)

Basing on the five items we find that the earners with mental Challenged do not perform well but a few of them can do something this is due to their cognitive perception skills.

On the other hand however, the findings revealed some areas which were rated poor but below average like the digging, planting, cultivating (mean 0.25) cultural skills, drumming singing, dancing (mean 0.25) followed by self help skills, eating, toileting, use hand kerchiefs, brushing teeth, dressing bathing (mean 0.27) lastly, matching objects (mean 0.28). All these were poorly rated and these show that for mentally Challenged learners to achieve these skills, it will require the teachers to work very hard in order to achieve their goals.

Teachers will be required to vary their methods of teaching these skills of the learners.

The final picture basing on the rating of average mean of 0.34. The learning of the mentally Challenged learners is poor.

4.4 Relationship between environmental factors and level of learning of pupils with mental Challenged

The third objective in this study was to examine if there is significant relationship between environmental factors and level of learning of pupils with mental Challenged in Meru south district primary schools. On this the researcher set a hypothesis to test whether there is a significant relationship between environmental factors and level of learning of the pupils with mental Challenged. To achieve this last objective and to test this with hypothesis the researcher correlated the means for aspects of environmental factors and those on learning of the mentally

Challenged learners using the Pearson's linear correlation coefficient, as indicated in table 4

Table 4: Person's linear correlation coefficient results for environmental factors and learning of mentally Challenged learners

Variable correlated	R-value	sign	interpretation	Decision on ho
Environmental factors Vs learning of Mentally retard learners	-0.0664	0.000	Significant relationship significant	Rejected

Source: Computed by the Researcher Using Data in Appendix I, **2013**.

The results in tables 4 indicates that environmental factors and learning of mentally Challenged learners are not significantly correlated ($r=-0.0664$). the sig. value indicate that there is a positive and significant correlation ($\text{Sig.} = 0.000 < 0.05$) leading to a conclusion that Environmental factors significantly improve learning of mentally Challenged learners at 5% level of significance. Basing on these results the stated hypothesis of " there is no significant relationship" is rejected and thus the findings showed a negative relationship between environmental factors and learning of mentally Challenged learners. These results lead to a conclusion that improvement in environmental factors is likely to improve the learning of mentally Challenged learners in Primary schools in Meru-South District.

To get a final picture on how environmental factors affect learning of mentally Challenged learners, three aspects of environmental factors index were regressed against aspects of learning of mentally Challenged learners, the results of which are indicated in the table 4 below. And the remaining aspects were not significant however the overall general picture showed a positive and significant effect

Table 5: Regression analysis between learning of mentally Challenged and environmental factors

Variables Regressed	Adjusted R²	F value	Sign. Value	Interpretation	Decision on H₀
Learning of mentally Challenged learner vs environmental factors	.360	23.290	0.000	Significant Effect	Accepted
Coefficients	Beta	t-value	Sign. value		
Constant	-	31.798	0.000		Rejected
Nutrition	-.335	-4.475	0.000	Significant effect	Rejected
Safety	-.322	-4.155	0.000	Significant effect	Rejected
Sensory	-.1.73	-2.300	0.024	Significant effect	Rejected

Source: Computed by the Researcher Using Data in Appendix I, **2013**.

Under linear regression in table 5 above indicates that environmental factors significantly affects learning of mentally Challenged learners ($F= 23.290$, $Sig.=0.000$). the results indicate that the three constructs of environmental factors included in the regression model contribute over 36% towards variations in all the aspects of learning of mentally Challenged learners in Primary School in Meru-South District ($Adjusted R^2 = 0.360$). the coefficients section of this table indicates the level to which environmental factors affect learning of mentally Challenged learners and this is indicated by Beta values. For example, of all the three aspects of environmental factors, sensory has the biggest impact on learning of mentally Challenged learners with a beta value of -1.72, suggesting that sensory environmental factors contribute over 17% towards variations in learning of mentally Challenged learners. This is followed by Safety ($beta = -0.322$), and lastly Nutrition ($beta = -0.335$). This implies that for learning of mentally Challenged learners to improve and flourish, the administrations of the primary schools in Meru-South District should come up and put emphasis on the sensory aspect of environmental

factors, followed by Safety environmental factors and Nutritional environmental factors. These should be hardly thought of if the administration wants to boost the learning of mentally Challenged learners in Primary schools in Meru-South District.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

5.1 Introduction

This chapter presents Discussion of findings and conclusion derived and drawn from the study after having presented, analyzed, discussed, the findings and recommendations that can be adopted and implemented to overcome the problems highlighted.

5.2 Discussion

This study was done with the purpose of correlating environmental factors and learning of learners with mental Challenged in Chuka Division, Meru South District Kenya. It was basically guided by three specific research objectives that were set to assess the level of environmental factors on mental Challenged, examine if there is a significant relationship between environmental factors and level of learning of the pupils with mental Challenged.

The first objective was to assess the level of environmental factors on mental Challenged. From the findings on this were done by studying indicators of nutrition and health and it was revealed that they were moderate with 2.57, safety was found to be low at 2.48, and lastly sensory, emotional and social stimulation that were rated moderate at 2.58 in the school. These findings were in line with (Ndurumo, 1993). Who said that the safety of learners with mental Challenged is paramount. They are required to live in a least restrictive setting appropriate to their individual needs and abilities and in a variety of living situations. For example in a supervised protective environment. The school compound should be well fenced and free from moving vehicles. The school compound should be free from potholes, hills, stairs in order to provide easy movement because some learners may suffer from low vision or cerebral palsy which interferes with coordination and movement. The school should have proper lockable gates with gatekeepers for security reasons. The classrooms should be free from sharp objects and should be large enough for easy movement in case of wheelchair users.

And by Act (1991) who said that Health and safety code on persons with mental Challenged states that these learners have the right not to be mistreated, neglected or abused by service providers. So teachers should not neglect these learners. They have the right not to denied education even if they do not score high marks. They should be protected from exploitation and sexual harassment. They also have the right not to receive unnecessary or excessive medication. Since learners with mental Challenged also suffer from other health impairments, the school should have an emergency service available in school like the first Aid kits and others like the sickbay.

This was also rejected by Alvarez-Leite, (2004) who said that most learners with mental Challenged must have lacked the maternal sensory stimulation and suffer isolation and rejection during the early ages of life. Separation not only causes mental Challenged but also severe emotional disorders because interaction with other people is one of the cardinal requirements for emotional growth and development Thus; the environmental factors on mental Challenged was found to have been moderate with a grand average mean of 2.54 on the learning of mentally Challenged learners.

The second objective was to determine the level of learning of learners with mental Challenged. Findings on this were done by study in the numbers of learners who performed between 2011 and 2012. The findings from the study found out that the level of learning of pupils with mental Challenged was poor with an average mean of 0.34.

This was in line with Payne et. al, (1977)and Suran and Rizo, (1979). Who said that Learners with mental Challenged are classified into educable, trainable, and profoundly mentally Challenged. The educable are technically mild, the trainable are moderate and the profoundly Challenged have low intellectual functioning and are referred to as custodial Challenged. The educable are the largest group because they constitute between 75% and 80% while it was rejected by Robinson and Robinson (1976) and Haring (1978) who observed that purely academic achievement is in appropriate for these learners. They stressed that the curriculum

should emphasize social competence, occupational skills and self-care skills for social and occupational independence before leaving school.

The third Objective was to examine if there is a significant relationship between environmental factors and level of learning of the learners with mental Challenged. Using the Linear regression results, the results indicated that environmental factors and learning of mentally Challenged learners are not significantly correlated ($r=-0.0664$). The sig. value indicate that there is a positive and significant correlation (Sig. = $0.000 < 0.05$) leading to a conclusion that Environmental factors significantly improve learning of mentally Challenged learners at 5% level of significance. Basing on these results the stated hypothesis of "there is no significant relationship" is rejected and thus the findings showed a negative relationship between environmental factors and learning of mentally Challenged learners. These results lead to a conclusion that improvement in environmental factors is likely to improve the learning of mentally Challenged learners in Primary schools in Meru-South District.

5.3 Conclusions

Level of environmental factors on mental Challenged

The first objective aimed at assessing the level of environmental factors on mental Challenged. The researcher used indicators of nutrition and health which was moderate with 2.57, safety was found to be low at 2.48, and lastly sensory, emotional and social stimulation that were rated moderate at 2.58 in the school. The researcher concludes that these factors within the environment that influence or affect how a child learns. They may include nutrition, health, safety, sensory stimulation, language stimulation, emotional and social development whereby when a child is deprived of appropriate nutrition, his learning is affected and leads to mental challenge and ignored or neglected learners who live under unhealthy conditions and improper inadequate medical care are at a high risk, safety of mental challenged learners is paramount, they are required to live in a least restrictive setting appropriate to their individual needs and abilities in a variety of living situations.

Level of child protection concerns in Source Yubu and MupoiPagams

The second question of the study was aimed at determining the level of learning of pupils with mental Challenged. The researcher found out that the level of learning of pupils with mental Challenge was poor with an average mean of 0.34. this poor outcome was due to the fact that pupils with disabilities, especially those with mental challenge, often have trouble using their new knowledge and skills in settings or situations that differ from the context in which they first learned those skills. To another extent some pupils with mental challenge exhibit an apparent lack of interest in learning or problem-solving. Some learners with mental challenge develop learned helplessness, a condition in which a person who has experienced repeated failure outcomes to expect failure regardless of his or her efforts.

Learners with mental Challenge are always affected with speech problems. This is another factor which might make them choose not to participate in learning activities which involve speech or any social gatherings (Mumbi Githang'a 2002).

Social interaction is a very important component of human development. Children who have no disabilities learn language, motor and cognitive skills through social interactions. Learners with mental Challenged are therefore limited in their opportunities throughout one's life if a comprehensive and structured training programme is not put in place (Shastri 1971)

Parents and teachers could encourage learners with mental Challenged to interact through giving instructions in all social skill areas and placing them in inclusive schools. The family could organize family outings and also play among peers in the community and family members.

These learners also require adequate guidance and training them to be competent in social skills (Pati et al. 1996). If these learners are well trained and encouraged, they could enjoy the same opportunities like the regular learners.

5.4 Recommendations

This section deals with recommendations arising from pertinent findings and conclusions of this study.

Basing on the findings on the first objective, the researcher recommends that if the learners with mental Challenged have to improve their performance in school, their nutritive and health should be adequate. They should be fed with enough balanced diet and good health facilities provided for in school.

The safety of these learners should be taken care of. The playing ground should be safe without portholes and sharp instruments. The school compound should be fenced properly with a proper gate and security guards available.

Learners should be provided with enough playing materials for manipulation and be engaged in group activities with their peers. Teachers should reward them positively in order to motivate them.

Basing on the findings from the second objective, about learning of mentally Challenged learners the researcher recommends that Poor performance of learners with mental Challenged can be improved if teachers use different teaching approaches. Teachers are also advised to use different teaching and learning resources to enrich their teaching. Manipulative materials should be provided to learners for cognitive development and perception training.

The government should modify the curriculum to suite the learners needs. The parents to be taught on how to nurture their families before, during and after pregnancy by maintaining balanced diet and emotional well being of their families.

Sensitizing other learners to work with and support their peers who are mentally challenged in their classes as they are members of the same community. The attitude of teachers and entire school community should be positive in order to accommodate these learners in school and raise self-esteem.

-----Mental Challenged is manifested before age 18. In order to make a valid determination it is necessary to use valid tests and assessment procedures. Valid assessment must take into account and rule out cultural and linguistic differences. In addition to subaverage intellectual functioning, which is determined by a test, it is necessary to also determine that there are limitations in adaptive skills that occur within the context of community environments typical of the individual's age peers

and is indexed to the person's individualized needs for supports. Adaptive skill areas are those daily living skills needed to live, work and play in the community. They include communication, self-care, home living, social skills, leisure, health and safety, self-direction, functional academics (reading, writing, basic math), community use and work.

The study concluded that professional training of teachers influences learning of mentally Challenged learners in regular schools because they are able to handle them according to their behavior. Teacher pupil ratio influences inclusion of mentally Challenged learners in regular schools where all teachers are allocated various classes and the Pupils are positioned according to their abilities. The study recommended that The Ministry of Education should consider increasing the provision of enough facilities and resources for the mentally Challenged learners to enable them feel accommodated and also ensure that their needs are adequately and appropriately catered for. Continuous monitoring and evaluation of understanding through assessment of assistance in mentally Challenged learner's school life and the positive effect on teacher and parent relations on roles should be conducted.

Areas for future research

Not with standing the efforts made by the researcher, she could not exhaust entirely this particular are; there fore
She recommends that the future researchers should focus on the followings.

Owing the fact that this study only concentrated on environmental factors and earning of the mentally Challenged learners in Meru south district primary schools, there is a need to conduct a similar study but purely covering on work and living arrangements for the mentally Challenged learners. Also the researcher recommends the future researchers to concentrate on the setting of transitional programmes for mentally Challenged learners from school to the outside world.

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**APPENDIX 1A:
TRANSMITAL LETTER**

**OFFICE OF THE HEAD OF DEPARTMENT, EDUCATION, OPEN AND
DISTANCE LEARNING
COLLEGE OF HIGHER DEGREES AND RESEARCH (CHDR)**

Date: 25th August, 2012

**RE: REQUEST OF MAGDALINE SYPHROSA ODONGO MSE /24490/ 113 /DF
TO CONDUCT RESEARCH IN YOUR ORGANIZATION**

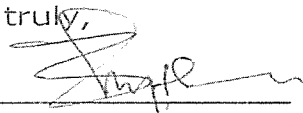
The above mentioned is a bonafide student of Kampala International University pursuing Masters in Special Needs Education.

She is currently conducting a research entitled "**Environmental Factors and the Learning of the Mentally Challenged Pupils in Primary Schools, Meru-South District, Kenya.**" Your organization has been identified as a valuable source of information pertaining to her research project. The purpose of this letter is to request you to avail her with the pertinent information she may need.

Any information shared with her from your organization shall be treated with utmost confidentiality

Any assistance rendered to her will be highly appreciated.

Yours truly,

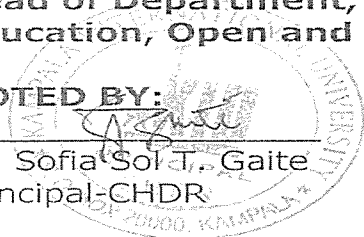


Dr. Ssemugenyi Fred
Head of Department,
Education, Open and Distance Learning (CHDR)

NOTED BY:



Dr. Sofia Sol T. Gaite
Principal-CHDR



APPENDIX IB:
TRANSMITTAL LETTER FOR THE RESPONDENTS

Dear Sir/Madam,

Greetings!

I am a candidate for Masters in Special Needs Education at Kampala International University with a thesis on ENVIRONMENTAL FACTORS AND LEARNING OF PUPILS WITH MENTAL CHALLENGED. Within the context of this academic requirement, may I request your assistance by being part of this study?

Please respond to the questionnaires and kindly do not leave any item unanswered. Any data from you shall be for academic purposes only and will be kept with utmost confidentiality.

Thank you very much in advance.

Yours faithfully,

.....

MagdalineSyphrosaOdongo.

APPENDIX II:
CLEARANCE FROM ETHICS COMMITTEE

Candidate's Data

Name : Magdaline Syphrosa Odongo
Reg. No : MSNE/24490/113/DF
Course : Masters in Special Needs Education
Title of study : Environmental factors and learning of pupils with
mental Challenged in Chuka Division, Meru-South District, Kenya.

Ethical review checklist

The study reviewed considered the following:-

- physical safety of human subject
- Psychological safety
- Emotional security
- Privacy
- Written request for author of standardized instrument
- Coding of questionnaires/anonymity/confidentiality
- Permission to conduct the study
- Informed consent
- Citations/authors recognized

Results of ethical review

- Approved
- Conducted (to provide the ethic committee with corrections)
- Disapproved/resubmit proposal

Ethic committee (Name and Signature)

Chairperson

Members

APPENDIX III:
INFORMED CONSENT

I am giving my consent to be part of the research study of Ms. MagdalineSyphrosaOdongo that will focus on Environmental factors and learning of mentally Challenged learners.

I shall be assured of privacy, anonymity and confidentiality and that will be given the option to refuse participation and right to withdraw my participation any time.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.

Initial :.....

Date :

APPENDIX IV: **QUESTIONNAIRE TO DETERMINE THE EXTENT OF ENVIRONMENTAL** **FACTORS ON MENTAL CHALLENGED**

Direction: Please write your preferred option on the space provided before each item. Kindly use the rating guide below:-

Response Mode	Rating	Description
A. Strongly agree	(4)	you agree with no at all doubt
B. Agree	(3)	you agree with some doubt
C. Disagree	(2)	you disagree with some doubt
D. Strongly disagree	(1)	you disagree with no doubt at all

Nutrition and health in the school.

-1. Have enough latrines and toilets which are adapted, clean and well kept.
-2. Have clean classrooms and regular cleaning is done
-3 Provide boiled water or add safeguard/chlorine tablets or filter
-4 Learners feed on one type of food.
-5 Provision of food is done regularly.

Safety in the school.

-1. The school compound is well fenced.
-2 The school environment is free from physical barriers e.g potholes, hills, stairs.
-3 Classrooms are free from sharp instruments.
-4 Emergency services available in school.
-5 Have enough security guards/gatekeepers.

Sensory, emotional and social stimulation

-1. Have enough playing facilities at school.
-2. Learners make and keep friends

- 3. Teachers have negative attitudes towards learners.
- 4. Parents provide supportive materials for their learners
-5. Enriched classrooms with enough materials available.

APPENDIX V:
QUESTIONNAIRE TO DETERMINE THE LEVEL OF LEARNING OF
LEARNERS WITH MENTAL CHALLENGED

Direction: Please write the number of learners who performed between 2011 and 2012 in each column as indicated below.

Response Mode	Rating	Description
79 – 100	A	Very good
56- 78	B	Good
34-55	C	Fairly good
20 – 33	D	Fair

Performance of learners in class and outdoor activities	No of pupils (Grade A)		No of pupils (Grade B)		No of pupils (Grade C)		No of pupils (Grade D)		No of pupils (Not able to perform)	
Year	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
Recognition of letters										
Matching objects										
Drawing simple patterns										
Using balls during play										
Sorting beans/ cereals, threading beans										
Can follow direction from left to right										
Count objects										
Interact with peers in greetings, turn taking, story telling.										

Sweep using brooms, use mops to clean class										
Group activities: Construction, modeling, stacking toys										
Self help skills- eating, toileting, use handkerchiefs, brushing teeth, dressing, bathing										
Prevocational and vocational skills- threading needles, sewing, knitting.										
Digging, planting, cultivating.										
Cultural skills, drumming, singing, dancing										
National exam achievers.										

APPENDIX VI:
SAMPLE SIZE DETERMINATION

$$n = \frac{N}{1 + N (0.05)^2}$$

Where: N = Population

n = Sample size

0.05 = level of significance

$$n = \frac{200}{1 + 200 (0.05)^2} =$$

$$n = \frac{200}{1 + 0.0025}$$

$$n = \frac{200}{1.5} = 134$$

$$n = 134.$$

RESEARCHER'S CURRICULUM VITAE

Personal Profile:

Name: Magdaline Syphrosa Odongo
Gender: Female
Nationality: Kenyan.

Educational Background:

Bachelor of Education in SNE	(KIU)	(2010)
Diploma in SNE	(K.I.S.E)	(2005)
Certificate in SNE	(K.I.S.E)	(1999)
P I Teacher training	(Kamwenja T.T.C)	(1990)
KCSE	(Gama Girls Secondary)	(1982)
CPE	(Muguga Primary)	(1977)

Work Experiences

21 Years primary school teacher.