EFFECTS OF TEACHERS' USE OF COMMUNICATION TECHNIQUES ON ACTIVITIES OF DAILY LIVING FOR LEARNERS WITH DEAFBLINDNESS IN SELECTED PRIMARY SCHOOLS, UGANDA

BY

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DECLARATION

This thesis is my original work and has not been presented for any award of a degree or any other academic award in any other University.

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DEDICATION

To my loving parents Elizabeth Madudu, my late father Elogu John Omiat, for their foresight in education and their endurance to see me go through all the challenges along the way up to this level. My success is from your contribution. To my lovely children, the late Akiteng Rebecca and my late son Omiat Bruno who died in an accident. Their demise laid a very strong foundation of courage in me. To the cause of all persons with deafblindness in Uganda.

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ABBREVIATIONS AND ACRONYMS

ADLs	Activities of Daily Living
ASL	American Sign Language
BSL	British Sign Language
CHARGE	The acronyms: "**C**" for Coloboma "**H**" for Heart defects "**A**" for Artesia of Choanae "**R**" for Retardation of growth and development "**G**" for genitourinary problems "**E**" for Ear abnormalities
EARS	Educational Assessment and Resource Services
MoESST	Ministry of Education and Sports, Science and Technology
MSI	Multisensory Impairment
NAPE	National Assessment of Progress in Education
NCDB	National Consortium on Deafblindness
SNE	Special Needs Education
UBOS	Uganda Bureau of Statistics
UNCDC	Uganda National Curriculum Development Centre
UNEB	Uganda National Examinations Board
UPE	Universal Primary Education
KISE	Kenya Institute of Special Needs Education
IEP	Individualized Education Plan
ZPD	Zone of Proximal Development
SMDG	Sustainable Millennium Development Goals
PTA	Parents and Teachers Association

ABSTRACT

The thesis concerns a study on the effects of the teachers' use of communication techniques for achievement of daily living activities for learners with deafblindness in primary Schools in Uganda. The thesis contains five chapters. That is Chapter one, chapter two, chapter three, chapter four, and chapter five in that order. It aims to identify and describe the extent to which the teachers' use of communication techniques has had an effect on the learners' ability to acquire life skills during activities of daily living in selected primary schools in Uganda. The word deafblindness is used throughout the thesis, to imply learners who have both a hearing and visual impairment that necessitates that teacher makes relevant adaptations for the learners to participate in ADLs. The detail of the literature is discussed in chapter two. The study was carried out in two districts, and in two government-aided primary schools from Eastern and Mid-western regions of Uganda. The report adopted a survey research design. A target population of 60 participants and a representative population sample size of 30 participants constituted the study. Purposive sampling technique was used to identify participants who taught learners with deafblindness in the selected Schools of the study. The results were obtained through descriptive analysis using a triangulation approach, by observation, interviews and focus group discussions. Data analysis followed categories and emerging sub-themes from the set objectives. The study embarked on interviews and observations with the teachers during indoor and outdoor ADLs. The theory of Social Interaction and the theory of Language and Communication guided the study. These theories stated that; the elements of language constitute its meaning to include aspects such as the use, context and content and their interconnectivity during interactions and dialogue. A conceptual frame work was developed in relation to literature reviewed. Purposive sampling approach was used to identify study sites and participants. The study is hoped to create awareness among communities about the education of learners with deafblindness. The findings may benefit educationists and policy makers in the area of learners with deafblindness. Study findings may create awareness among stakeholders who might be of help to fill gaps identified. The study concluded that teachers of learners with deafblindness were not doing well in the area of communication that had an effect on the learners' participation achievements during ADLs. The study recommends that teachers be encouraged to carry out exploratory visits to Schools of similar settings to enable them share experiences and challenges. Government should allocate reasonable funding to procure adapted teaching and learning materials to support teachers in their work. The Uganda National Curriculum Development Centre and other educational institutions cited in the thesis to embrace flexibility during curricula adaptations and diversity in teacher training.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Presented in this chapter are the background to the study, statement of the research problem, objectives, research questions, and significance of the study. The chapter also presents limitations and delimitations, assumptions of the study, conceptual framework, theoretical framework and definition of operational terms.

1.1 Background to the Study

Deaf blindness can be acquired or congenital in origin (Stuart, 2002). The aim of the study was to identify the effects of the teachers' use of communication techniques for achievement of indoor and outdoor activities of daily living for learners with congenital and acquired deafblindness in primary schools in Uganda. Uganda has made tremendous efforts to spearhead the education of learners with disabilities at different levels. Uganda is among those countries that are fronting education as one of the Sustainable Millennium Development Goals (SMDGs) which aimed at empowering learners with disabilities to attain equal opportunities by 2015. The government of Uganda has established an equal opportunities commission to deal with inequalities in sectors of education, employment, and children's rights. It recognizes education of persons with disabilities as a fundamental human right, however, there is not enough literature concerning the education of such learners with deafblindness. There is a policy on free primary and Secondary school education being implemented in the country. Not much has documented in terms of the training of teachers' visa avis learners' participation and their achievements during ADLs. In order to meet the national goals of education, several policy measures have also been

put in place headed by commissioners, including; the educations review commission, the White Paper on Education, Education Standards Agency (ESA). The education standards Agency (ESA) is an arm of governance in the Ministry of Education and Sports, Science and Technology that checks on quality assurance of teachers and Schools in the country. It collaborates with the National Assessment of Progress in Education (NAPE).

Deafblindness and communication development is an area of concern to many educators working with learners who have multi-sensory impairments. Globally, historians and educationists have described the characteristics of the field of deafblindness by examining its roots in the fields of blindness, deafness and in multiple disabilities (Hart, 2006). According to a study by Afufu (2004), deafblindness is believed to be a unique field because it relies upon practices from the aforementioned disciplines. It is to meet the complex communication and programming needs of individuals with very diverse conditions. However, beyond its formation from multiple bases of knowledge, the field of deafblindness has developed some unique characteristics which extend beyond its parent fields.

Stuart, (2002) defines Deafblindness as a functional diagnosis that combines both visual and hearing disabilities. Learners, who are born deafblind, are referred to as congenital deafblind, while those who acquired it later in time are referred to as adventitious deafblind. The impairment is also known as Multisensory Impairment Stuart (2000). Stuart further noted that the impairment restricts the learners' full participation and achievement during activities of daily living. It requires that society and support personnel compensate such learners, by way of providing specific

services and environmental modifications. Communication techniques that enable learners with multisensory impairments achieve their potentials in life should be developed (Stuart, 2002). Hart (2006) adds that all congenital deafblind persons are potential communicators with their partners. He further asserts that the key issue here is how we can help such learners to achieve that desired potential.

It is documented that, learners with congenital and adventitious/or acquired deafblindness often receive fragmented or distorted information from their contact with people. Their participation and achievement during activities of daily living cannot be compared to that of the typical learners without such a disability (Stuart, 2002). Some scholars have also observed that some individuals with acquired deafblindness may have attained some symbolic communication or some language before the onset of the difficulty. Individuals with congenital deafblindness may experience difficulties since they too are affected right from birth (Hart, 2006). The degree to which each of the senses is impaired differs from individual to individual (Hart, 2006). Hart (2006) further argues that total absence of vision and hearing lies at one hand, while at the other end residual vision or hearing or some residual facility in both senses is possible. Hart's reasoning implies that in all cases, the hearing and visual impairment, occurs to a degree that precludes compensation of the weaker sense by the stronger sense. Some persons who are deafblind are able to use their residual sight or residual hearing to support communication. In such cases, different kinds of communication techniques are required than those that are useful for persons with complete vision or a hearing loss (Hart, 2002). For example, a renowned deafblind lady, Helen Keller, who was widely recognized as the most famous person to have deafblindness from the United State of America, represents an example of a

gifted individual who happened to be deafblind. The study focused on deafblindness because in Uganda, various types of disabilities have gone through a fairly good formal education unlike learners with deafblindness.

In sub-Saharan Africa, it is documented that the education of learners with deafblindness started in early 1950s in South Africa. It is reported that it was mainly concentrated on the white minority populace during the period of apartheid regime in South Africa. In Kenya, a study by Kamau (1998) on the education of learners with deafblindness, reported that such an education was started in the early 1980s. It later spread to Uganda in early 1994 (Kamau, 1998). According to the National Consortium on deafblindness in the United States of America, it estimates that there are over 10,000 children with deafblindness. However, according to Turkington and Sussman (2000) they suggested a different figure of 56,000 (NCDB, 2008). In France, specialized services are provided to cater for persons with deafblindness of all ages. With an estimate of 3-6 out of 100,000 who are deafblind. Communication is a priority. Cote and Clouteir, (2005) reported that in Quebec City, the provision of such services to learners with deafblindness has remained a big challenging due to communication challenges among service providers.

The Helen Keller Centre (2007) also gave a figure of 70,000 of persons with deafblindness in the United States of America. However, the findings estimate that, out of that figure, 11,000 of them are said to be children. Although the figures appear to be inconsistent, the overall impression is that there is a steady growth of the number of persons with deafblindness who use tactile communication techniques, Tele Braille, in the United States alone who still are in need of educational services.

The reports, do not however, mention the performance of teacher to pupil ratio in schools and how the teaching of ADLs is carried out.

Although the Japanese National Association of the Deaf blind (JNADB) puts its estimate to be 434 persons, with figures of children with deaf blindness and their education not mentioned (Japan National Deaf blind Association, 1998). Overall, the impression is that these are developed countries that seem to have developed communication modes for learners with deafblindness at all levels of education. This is not the case in Uganda where assessment is paid less attention. The level of education of learners with deafblindness is rated far much beyond the situation in Uganda. Available statistics from the Uganda Bureau of Statistics (UBOS) indicate that about 182,350 children with disabilities are enrolled in schools. However, there is no specific mention of the numbers of learners with deafblindness. An implication that the numbers of learners with deafblindness enrolled at primary school stills remains low.

There is no clear mention of the kind of training offered to teachers in this area. The curriculum is silent on the necessary adaptations needed in the curriculum that should cater for such learners throughout the country (MoES, 2005). The impression here is that there is an effect on the education of such learners is not well developed in line with the various educational policies put in place. Accordingly Xiaoshu Ye (2006), China has 83 million people with disabilities. However, the report does not specifically mention the teachers profile and how learners with deafblindness are benefiting from the educational system. The training needs of teachers supporting learners with deafblindness and the challenges of teacher to pupil ratios cannot

therefore be underestimated. Policy statements in Uganda do not mention issues related to teacher training and education of learners with deafblindness generally (MoEST, 2010).

Comparably, the Helen Keller National Center for Deaf Youths and Adults determined eligibility for its services according to the more detailed, with respect to vision and the precise definition of deafblindness as follows: It considers central vision acuity of 20/200 or less in the better eye with corrective lenses or central acuity of 20/20 if there is a field defect such that peripheral diameter of visual field subtends an angular distance not greater than 20 degrees. A chronic hearing impairment so severe that most speech cannot be understood with optimum amplification is considered. Studies from the centre further indicated that, the combination of the two cause such extreme difficulties for a person to attain independence during activities of daily living. Psycho-social adjustment in pursuit of a vocational objective will therefore be required.

The study highlights the use of various communication techniques used by the teachers. A conversation with a learner who is deafblind can begin with a partner who simply notices what the learner is paying attention to at that material moment. Studies have revealed that, a partner finds a way to let the child know that his or her interest is shared (Moller, 2003). According to the demographic study by the Canadian Deafblind and Registry of individuals who are deafblind (2001), it estimated that out of 777 persons who responded to their study, 44.7% of the participants were reported to be congenitally deafblind.

The same study reported that about 55.3% of the participants studied, were categorized with adventitiously/acquired deafblindness. However, despite the existence of the two categories of such learners in Uganda, available national statistics does not have a clear indication of analysis of the breakdown in terms of the categories and the plight of learners with deafblindness and their teachers. In addition, how they should receive their education is also not clearly stated. Literature reviewed from the Uganda Ministry of Education and Sports indicate inconsistent statistics for learners with deafblindness in all the districts of study (as at 2000 - 2012)

Other range of causes of deafblindness also includes the CHARGE syndrome (Moller, 2003). The CHARGE syndrome is associated to multisensory impairments with defects in the eye, the heart, genitalia, and ear characteristics. All are linked to the prevalence of deafblindness. Ushers syndrome levels; 1, 2, and 3 is noted as one of the leading causes of deafblindness in Uganda. The syndrome accounts to approximately half of the persons with acquired/adventitious deafblindness in Uganda (SENSE-Uganda, 2010). In addition prematurity, meningitis and cytomegalovirus, earlier times rubella syndrome are associated to the CHARGE syndrome (SENSE-India, 1997). The causes of CHAGRE are not yet known. Schools for learners with deaf blind in Great Britain mainly use British Sign Language (BSL) alongside lip readers, note takers and speech-to-text reporters (Hart, 2006). The prevalence of congenital deafblindness in the United States of America is estimated to be approximately 1: 10,000 among children (Moller, 2003). Ushers syndrome is noted as one of the leading causes of deafblindness in the United States of America alone.

The same author notes that the commonly used communication strategies in Ireland include; Sign Language and tangible objects of reference techniques (Moller, 2003). The school system in the United States of America and the United Kingdom encourages teachers to adopt the use of total communication among learners with deafblindness, depending on the severity of the impairment (Hart, 2006). According to the base line survey carried out by SENSE international, Uganda development program, total communication is not used in most schools in Uganda (SENSE, 2010). The findings from SENSE international Uganda development program have documented an understanding of deafblindness in simple terms when it quoted a case study of one deaf person saying that;

> "*...if you think deafness as a colour yellow and blindness as a colour blue, when you mix the two together you do not get yellow-blue but a completely different colour-green".* (Source: SENSE International, 2013).

There are numerous causes of congenital deafblindness added to the complexity of the condition. Acquired deafblindness occurs when a person becomes hearing and visually impaired during childhood or in adulthood. The implications here is that the prospects for language, social development and functioning differ in these groups. With an ageing population, increasing cases of dual-sensory loss in old-age are reported (Van Dijk, 2003). Individuals with acquired deafblindness may have already attained symbolic communication or, indeed, may have acquired language before the onset of their sensory difficulties.

Table 1.1: Enrolment of pupils with special needs in primary schools in Uganda

	2008	2009	2010	2011	2012
Class					
P1	38,169	40,023	40,895		
P2	28,502	30,430	31,263		
P3	30,828	36,528	34,847		
P4	29,572	33,796	35,128		
P5	24,881	28,287	27,781		
P6	19,585	21,986	22,233		
P7	12,000	13,302	12,871		
TOTAL	**83,537**	**204,352**	**205,018**	**-**	**-**

Source: Uganda Bureau of Statistics (UBOS) Statistical abstract, 2013.

This study was important because there was need to study teachers' use of communication techniques, to find out participation and achievement of learners with deafblindness during activities of daily living. It is upon this background that there was a need to do a study of this nature to dig deeper into understanding the issues that could have had an effect on the learners' levels of achievement and participation in schools curricula, in terms of communication during ADLs in schools.

1.2 Statement of the Problem

There are few studies that have focused on communication techniques specific for teachers of learners with deafblindness in Uganda. There is therefore limited research-based evidence to validate the use of communication techniques used by primary school teachers from urban and peri-urban primary schools in Uganda. According to studies by Rodbroe and Ramsing, (2005), learners with deafblindness, benefit less from the regular and adapted primary School thematic curricular. There is

a mismatch in communication teachers' use at primary School level from selected Schools from the east and mid-western regions of Uganda. Less information is documented to address the desired dyadic and triadic communication techniques during activities of daily living among teachers of learners with deafblindness in primary Schools identified. There therefore a big gap in terms of teachers to pupil ratio, that caters for the communication needs of learners with deafblindness during ADLs. Learners with deafblindness are not progressing well in academics due to inappropriate communication techniques used by their teachers. Tarczay (2005) referred to exclusion from participation from activities of daily living as one of the barrier to education. This is a possible area of interest to future researchers. The study focused on identifying the effects of teachers' use of communication techniques during indoor and outdoor activities of daily living for learners with deafblindness. With this background, there was need to study the effects of the teachers' use of communication techniques in a bid to support learners with deafblindness during ADLs in the Schools identified.

1.3 Purpose of the Study

The purpose of the study was to identify the effects of teachers' communication techniques during activities of daily living for learners with deafblindness in primary schools from Iganga and Masaka districts, in eastern and mid-western regions of Uganda. The study also hoped to be useful to benefit policy makers, and curriculum developers in teacher training institutions for learners with deafblindness.

1.4 Objectives of the Study

The specific objectives of this study were to:

i. Find out the effects of communication techniques used by the teachers on achievements of Activities of Daily Living for learners with deafblindness in selected primary schools in Iganga and Masaka districts in Uganda.

ii. Identify the influence of teacher to pupil ratios in terms of the achievement of Activities of Daily Living activities by learners with deafblindness in the selected primary schools.

iii. Identify the challenges encountered by teachers working with learners with deafblindness during in-door and out-door activities of daily living in primary schools.

iv. Identify communication techniques used by the teachers to teach literacy and numeracy skills for learners with deafblindness in the Schools.

1.5 Research Questions

i. What communication techniques do the teachers use to enable them develop communication skills among learners with deafblindness during activities of daily living in primary Schools?

ii. How has the teacher to pupil ratio influenced the achievement of daily living activities by learners with deafblindness in primary Schools?

iii. What challenges related to the activities of daily living, are encountered by the teachers in selected primary Schools?

iv. What communication techniques do the teachers use to teach literacy and numeracy skills for learners with deafblindness in the School?

1.6 Significance of the Study

The study sought to provide information on the effects of teachers' communication techniques on activities of daily living for learners with deafblindness, the influence of teacher to pupil ratio. It looks at the emerging communication challenges in relation to literacy and numeracy skills development for learners with deafblindness in schools and the methods teachers used to instruct numeracy and literacy skills. The information gathered and the recommendations made may not be useful to only the teachers, but to government line ministries like the Ministry of Education and Sports, Science and Technology, the National Assessment of Progress in Education (NAPE) and curriculum developers. It will support in sector planning for the Uganda National Examinations Board, to help make relevant adaptations on the teaching and learning strategies for teachers in teacher training colleges.

The study is hoped to give a scholarly contribution to empirical evidence on the effects of the teachers' use of communication techniques considered appropriate for learners with deafblindness in regular schools. The study may contribute to scientific understanding of the support needed by the teachers towards the development of appropriate communication techniques needed to teach life skills to learners who are deafblind. Teachers may be encouraged to tailor methods of teaching to cater for all categories of learners with multisensory impairments in primary school. The findings may be useful in equipping teachers with transitional skills to support parents of learners with deafblindness. This is hoped to help parents can make informed decisions that enhance their communication potentials with such learners at home. Parents may directly benefit from the learners' achievements from the skills learnt

from school during ADLs, in terms of income generating from the prevocational skills learners are trained at school among others.

Findings are hoped to benefit multidisciplinary teams working in the area of deafblindness like; Audiologists, Speech and Language, therapists and curriculum developers. In addition, it is hoped that findings may support further research, innovations, and policy reforms in Uganda's educational systems for persons with multisensory impairments.

By the time of doing this research, the Uganda Ministry of Education and Sports, Science and Technology had no policy on Special Needs Education. If such a policy was in place, it would go a long way to offer necessary support needed by teachers to support learners with deafblindness. The research provides information that can be useful to develop further training and induction of teachers, community development workers, and in particular support staff who have not trained in Special Needs Education. This may enhance their performance in supporting learners with deaf blindness in schools.

Findings of the study could be useful in sensitizing parents and guardians of persons with deafblindness, during transitional programs in their communities when they leave school. In addition, it is hoped that findings may benefit stakeholders such as the Uganda National Associations of Parents of Children with Deafblindness (UNAPCDB), in terms of advocacy and lobbying for inclusive education. The results may serve as benchmarks during base line surveys for, non government organizations working for and of persons with disabilities, line ministries for other persons with

disabilities because this study establishes the actual expectations, needs and challenges facing the teachers of learners with deafblindness. It provides a basis to boost teacher's expectations by way of comparing the connections between the past and present education systems for learners with deafblindness under unequal circumstances in regular schools. Above all I am hopeful to get an award of a philosophy doctorate in Special Needs Education from Kenyatta University.

1.7. 1 Limitations

The study was delimited to a total sample size of 30 participants; including 08 teachers, 10 learners, 10 parents and 02 head teachers. The study was limited to only two government-aided primary schools identified from the two regions and two districts in the country due to time and financial constraints because the researcher did not get enough funding except the limited grant from African Development Bank and Kyambogo University. The study was only limited to teachers, with grade three teaching qualifications in special needs education and above. The study did not venture into other forms of disabilities for example deafness, physical handicapped, cerebral palsy, albinism, autism etc. It was limited to only learners with congenital and acquired deafblindness. The study did not involve privately-owned schools because such schools did not meet the context of the study.

1.7.2 De-Limitations

The study was carried out in the schools when the school calendar was on. The study focused on only one category of disability, deafblindness because the researcher assumed that there was very limited study in this area in Uganda. The study delimited itself on two theories of Social interaction, and the theory of Language and

communication (Markova, 2008; Bloom and Lahey, 1997). The study focused on only four research objectives because the researcher was curious about narrowing down the topic of study and the desire to discover obstacles specific in the complex area of communication with learners with deafblindness. The study was delimited to only two districts to safeguard the limited time and financial constraints. The areas of study were quite far from the researcher's place of work. The prevalence of bad weather, poor road net works and long distances to travel from one region to another and from one school to another proved quite challenging since observations was necessary to be done during activities of daily living as planned. However, funds for transport from the sponsor enabled the researcher and assistants to reach the study areas. The study was restricted to identifying the communication techniques used by teachers to enable them develop into the learners; appropriate communication skills to enable learners with deablindness achieve life skills during ADLs in primary schools studied.

1.8 Assumptions of the Study

(1) This study assumed that appropriate Communication techniques are not properly identified. The eachers' communication techniques are not closely monitored in schools. In most cases the teachers relied on trial and error, sometimes guess work to identify the learners' communication potentials during ADLs

(2) The educational levels of the permanent teaching staff are not specifically trained in the area of deaf blindness. This had an impact on the development and use of communication techniques by the teachers during ADLs. As a result, this could have been an influence on the achievement of life skills by learners with deafblindness.

(3) Teachers are not been fully exposed to the various communication techniques and the existing ones used were of questionable quality hence learners with deafblindness do not cope well during ADLs

(4) Lack of supplementary teaching and learning materials that should be adapted for learners with deafblindness, adversely affects the teaching and learning of ADLs

(5) Low teacher to pupil ratios in schools adversely affected the level of communication acquisition by learners with deafblindness during ADLs.

1.9 Theoretical and Conceptual Framework

In this section, the theoretical and conceptual frameworks are presented and discussed. The theoretical framework had two main theories which guided the study. The conceptual framework was derived from the literature reviewed.

1.9.1 Theoretical Framework

The theoretical framework that guided the study was based on the theories of Social interaction and the theory of Language and Communication (Markova, 2008; Bloom and Lahey, 1997). These theorists noted the three closely related concepts involved in communication. Through the theories, one could understand how people express their feelings, concerns, thoughts and emotions (Bloom and Lahey 1997). Bloom and Lahey's theory on language and communication noted one aspect of *dialogicality,* which meant a form of a dialogue. The authors mentioned that this characteristic is common to all human cognition and communication.

Theory of language and communication is supported by Linell, (1998) on the stages of communication development. Secondly the theory of social interaction stated that

dialogism is a theoretical understanding of knowledge with regard to the method used for its validity and its scope in human science. The concept of *dialogue* is concerned with a special type of interaction among human beings in exploring a subject of discussion. However, critiques of Markova and his colleagues based their argument on the fact that learners with deafblindness have a variety of communication modes which they referred to as total communication. The theoretical frame work is further supported by Janssen and Rodbroe (2007).

According to them, criticisms raised on the three concepts are understood differently considering the different activities of daily living in place and how they are instructed and shared by both the learners and their teachers. Markova (2008) further said that *dialogicality* is the fundamental capacity of the mind for those realities to be defined, in terms of otherness.

In their study, they perceived that persons with deafblindness imitate interactions. Their response to the acts of partners is often slower, more subtle and more difficult to predict than with the sighted and hearing persons (Janssen and Rodbroe, 2007). According to Trevarthen (1998), primary inter-subjectivity is the first step in social interaction and contends that this social interaction is dyadic and it is by face to face. This observation is typical of learners with deafblindness and their teachers in a teaching and learning environment. The theories are indicative of the core characteristics of the emergence of social interaction/communication as: a) Mutual attention and co-regulation; b) reciprocity; c) turn-taking and turn giving; d) Mutual attention and proximity; e) rhythm and tempo; and f) novelty and processing (Janssen and Rodbroe, 2007).

The above assumption is linked to secondary inter-subjectivity, where the learner becomes capable of organizing his or her relationship with the teacher or an adult and the outside world (Souriau, 1999). Souriau's argument is compounded by the facts presented by Trevarthen (1998) below.

Trevarthen (1998) explains that the child begins to realize that, besides his/her subjective motives, other persons around him have also intentions and motives too (triadic interaction). In addition, Bjerkan (1997) came up with the findings that connect social interaction and interpretation of messages as a more advanced form of social contact. He places the aspect that regulates dialogue in interpersonal togetherness and called it the relationship. According to Bloom and Lahey (1997) they noted communication as a process of social interaction between the individual, the other and the external environment, explained as; ME, YOU and IT. This follows a person's competence in the use of a language during dialogue. Reason being that the communication environment in the conceptual framework is one of the intervening variables in this study. The theories further noted that one's culture; lifestyle and history influences the person's interaction with the world around him/her. The theories further focused on language development; this means its form, content/structure and context in which language is formulated. According to the two authors, the content represents the meaning of the words used in a language. While the form, represents the elements such as the grammar which connects to meaning. All this are related to the communication dialogue between teachers and learners with deafblindness during ADLs.

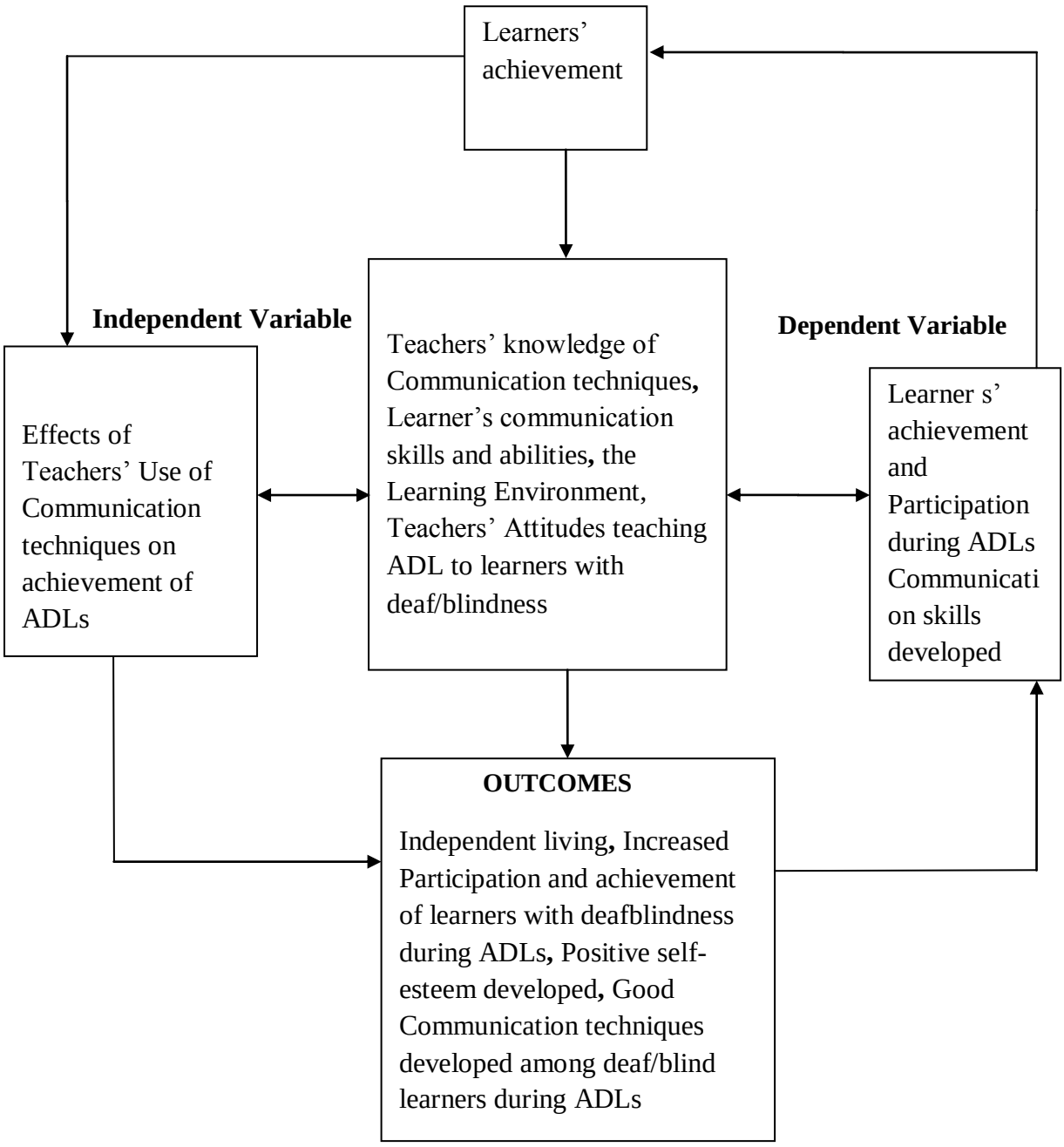
The third one is description of the use of a language. This refers to the rules governing the use of a given language, in different contexts, the target population and communication environments. Interpretations of the above theories helped the researcher identify the different communication modes used by the teachers and the learners during ADLs. For example, communication used by learners with residual vision, the deaf and hearing peers in all the areas was observed during ADLs. The theoretical foundations helped the researcher understand the description of language codes that represented ideas as conventional systems of arbitrary symbols used by learners with deafblindness and their teachers during all activities of daily living. The theory of language and communication further focused on bilingualism in communication techniques. This observation was important during the researcher's social interactions with learners in the school. The use of sign language by teachers and learners was proof that learners with deafblindness sometimes could not master the conversations that were going on during some planned ADL. Implying that, there was less attachment in terms of meaning for learners with congenital deafblindness.

1.9.2 Conceptual Framework

In trying to develop a conceptual frame work, the researcher developed an idea that showed the relationship between the various communication techniques used by the teachers to enable learners with deafblindness achieve meaningful communication during activities of daily living. The outcomes were evident. Fig 1.1 manifests the conceptual frame work which encompasses the major variables that includes communication techniques used and achievement of learners with deafblindness during routine activities of daily living.

Fig. 1.1: Conceptual Frame work:

Teachers' Use of Communication Techniques for achievement of Daily Living Activities by learners with deafblindness



Source:* (*Researcher's interpretations from the Literature Reviewed)

The idea to develop a conceptual frame work for this study was to borne in relation to the effects of the teachers' use of communication techniques visa avis the level of learners' achievement during planned activities of daily living in the schools.

Figure 1.1 above indicates the conceptual frame work which helped direct the research process. It consisted of sets of variables; (1) the independent variable which included the effects of the teacher's use of communication techniques (2) the dependent variables included learner participation, achievement, and communication skills development and (3) the intervening variables include teachers' knowledge of communication techniques, learner's communication skills and abilities, the learning environment and teachers' attitude towards teaching learners with deafblindness.

The learners' abilities to comprehend communication techniques used by the teachers for achieving life skills may result from both external and internal factors. These factors emanated from within the teachers and the learners themselves. The internal factors within the learners include perception deficits due to the nature of the visual acuity and hearing ability, culture, child motivation, cognitive abilities and intrinsic motivation.

1.10 Operational Definition of Central Terms

Activities of Daily Living: means daily self care activities within an individual's place of residence, in outdoor environments or both e.g. washing, toileting and grooming, brushing, eating etc. (Aitken, 2000).

Acquired/Adventitious Deafblindness: a condition where a person is born with vision or hearing and deteriorates at a later age through accidents, injury or disease. A person who loses sight and hearing after they have developed language in their early years (SENSE UK, 2013)

Artesia: a condition in which there is absence or closure of a normal body orifice or tubular passage such as external ear canal.

Communication: a process that allows organisms to exchange information by use of several methods like auditory means and signing. Communication can be verbal or non-verbal physical means like body language, touch, eye contact and use of writing (Hart, 2006; Inger, 1998).

Communication Techniques: educational strategies that are developed to assist promote language development potentials among teachers of learners with Deaf blindness (Hart, 2006)

Congenital Deafblindness: a term used when a person is born deafblind or when their combined hearing and visual impairment occurs after spoken or signed or other visual forms of language communication have been developed (Stuart, 2002).

Deafblindness: a functional diagnosis, which combine visual and hearing disability, which limits activities of a person and restricts full participation in society to a degree which requires that society compensate by means of providing specific services, environmental alterations and/or technology (Ferrell, 2009). It varies in the degree of the onset and has serious effect on a person's daily life patterns.

Dyadic: a shared communication partnership between the learner and the adult during a one-on-one communication approach – i.e. "YOU" and "I". It involves sharing emotions and mutual attention (Stuart, 2002).

Orientation: Ability to locate oneself in one's environment. It is a skill that is related to the use of the remaining senses to establish ones position in, and in relation to significant objects in the environment

Mobility: Is defined as "movement". It includes obtaining freedom of movement, safety in travelling as well as minimizing the level of stress placed (Hand Book on Deaf blindness; SENSE India, 1997)

SENSE: an international organization working with persons with deafblindness or multisensory impaired worldwide (SENSE India, 1997; SENSE Uganda, 2010)

Sign Language (Ugandan): an indigenous visual/or gestured language based on the use of manual and non-manual features. A language which uses manual communication, body language and lip patterns, instead of sound to convey meaning simultaneously or consecutively combining hand shapes. It combines orientation and movement of the hands, arms or body and facial expressions to express fluidly the speaker's thoughts (World Federation of the Deaf, 1993)

Tactile: Is related to the sense of touch or act of touching, "Tactile" is synonymous with "Tactual" (Accardo, 2002).

Tactile Finger Spelling: a tactile hand shape, which symbolizes alphabetical letters that can be read visually or through touch on the hands. The sender uses his or her dominant hand and the receiver uses non-dominant hand to convey and receive the intended message (Kathleen, 1995)

Tadoma: a tactual speech reading method of communication through lip reading that allows a deaf/blind individual to access spoken language by placing the thumb finger

on the jaw, index finger on the lips and the remaining fingers on the larynx. It is named after two children whom it was taught, Winthrop "Tad" Chapman and Oma Simpson.

Triadic: a shared communication partnership where a third party forms part of the communication interaction in the environment with deafblind persons, involving joint attention i.e. – "You", "I" and "IT" (Stuart, 2002).

Usher Syndromes: are a large group of inherited disorders which combines simultaneously both the hearing and progressive loss of vision. Associated to multiple congenital anomalies

Visual Frame Signing System: is a way of modifying and using sign language in a restricted space to suit the visual needs of the individual receiving it (Stuart, 2002).

1.11 Summary

Chapter one provided an understanding of the background of the study from local and global perspectives. The chapter gave main salient features that constituted the aspects of the scope of the study and the emerging gaps in terms of communication techniques that were deemed important in addressing the effects of the teachers' communication potentials during ADLs for learners with congenital and adventitious deafblindness. The chapter presented the purpose of the study with specific reference to the research objectives and research questions. The significance of the study is given. The chapter has emphasized the scope, limitations and delimitations of the study and presents its assumptions. It further provided theoretical and conceptual framework that forms the basis on which the study was undertaken. Definition of terms used in the text, are given in the end.

Available literature indicates that the educational of teachers of learners with deafblindness still remains rated very low in primary schools. The next chapter two will present local and global perspectives of the literature reviewed according to the set objectives of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction:

The aim of the study was to find out the effects of teachers' communication techniques on activities of daily living for learners with deafblindness in primary schools from Iganga and Masaka districts. The districts are from eastern and mid-western Uganda. In this chapter, relevant literature is presented. The literature covers the following research aspects; domains of communication techniques used by the teachers and the learners with deafblindness during Activities of Daily Living (ADLs), the influence of teacher to pupil ratio on the teachers work with learners with deafblindness during ADLs in school and the challenges encountered by the teachers during their day to day work. It highlights what other researchers have studied both globally, and locally. The literature cited, is related to the theoretical understanding of teachers working with learners with deafblindness in the area of communication.

The literature in this chapter is organized as follows; communication techniques used during activities of daily living, the influence of teacher to pupil ratio on the learner's acquisition of daily living skills in schools identified, and the challenges encountered by the teachers and the communication techniques used during numeracy and literacy skills development. The researcher has used the words learners throughout the literature to imply learners with deafblindness. A summary of the chapter is given in the end.

According to Hart (2006), he provides an understanding of the education of learners with deafblindness. He acknowledges that between 1880 and 1950, the role of the teacher was emphasized as one of the key elements that involve 'transferring' knowledge from the world to the learner with deafblindness. A second period was earmarked from 1950s to 1980s. This belief saw efforts to develop communication becoming increasingly encouraged. This was based on emotional bonding and related interactive routines. This is in line with the theory of social interaction that guided this study. Hart (2006) further pointed out that the methods used focused on teaching persons with deafblindness in a way consistent to learners who lost their hearing or sight at varying stages.

Hart (2006) gave an example; that the local doctors, who attended to a renowned deafblind lady, Helen Keller, first thought that her disability was a result of being possessed by a 'demon'. Their understanding was based on the fact thinking that that could be as a result of her her being so wild and violent with the support staff working with her at that time. This clearly demonstrated an understanding of the negative effect seen among the support staff involving different communication means that Hellen Keller had to use to be understood by those working to support her. Later, Helen Keller lived a celebrated life and her achievements cannot therefore be forgotten in the history of deafblind education in the entire world. In addition, another deafblind girl was later identified from Oberlinhaus, Potsdam in Germany. However, this view is contested by Biesecke (2005). Biesecke, documented that, the teaching of persons with deafblind is believed to have started in the early 1906 when the first home of persons with deafblindness was established (Biesecke, 2005).

Historically, deafblindness was viewed as a serious challenge to community members and even professionals working in the education sector (Deaf blind Children, 2008). Deafblindness affects a person's ability to live an independent life. The lack of communication potentials disables the person the more. The impairment has a serious influence on the quality of life of children with deafblindness both in schools and in their homes (Bohrman, 2007). The development and use of communication techniques among teachers and learners with deafblindness is often viewed as a complicated process by partners working with learners with deafblindness (Bohrman, 2007).

Despite the varying accounts on the evolution of deafblind education, the teaching of persons with deafblindness has since spread in most countries in Europe and in the entire African continent. However, each country where persons with deafblindness existed, have had their own versions of the communication techniques, challenges and successes registered. Research findings by SENSE Uganda, a local organization working with persons with deafblindness in Uganda, has indicated that learners with congenital and acquired/or adventitious deafblindness are estimated to be over 14,000 SENSE Uganda (2011). The level of their education and achievements is still considered low. However, the overall assessment has not provided useful statistical analysis of how teachers communicate to learners with deafblindness. According to Holland (2007) there are more than 23,000 individuals with deafblindness in the United Kingdom. The number of children attending school was not mentioned in his study.

In addition, in Japan, there are estimates of a population of individuals with deafblindness representing over 18,500. The dominant mode of communication is by tactile and use of teller Braille and sign language.

Communication in signs language reported by Chen and Dowing (2006), were documented in a dictionary of 1,600 signs in Ireland. In Uganda, a similar Sign Language dictionary was published in 2005 at the Kyambogo public University. It has approximation of 3000 words. However, the Signs Language researched in the Sign Language dictionary has no clear adaptations to suit learners with deafblindness. The aim of documenting signs was to support teachers and other stakeholders to learn how to communicate and teach learners with deafness in schools, sign language interpreters, teachers and the interested public (Uganda Sign Language Dictionary, 2005).

Although there are a few adaptations referred to in text books, they do not mention any critical communication modes for learners with congenital deafblindness during activities of daily living in schools. This implies that the teaching of such learners still remains a very big challenge. By the time of doing this research, there was no formal dictionary, specifically designed to support teachers for persons with deafblindness in Uganda. This implies that there is limited reference material for the teachers at all in this area. Communication therefore still remains a big challenge among teachers of learners with deafblindness in regular schools.

2.2 Review Of Imperical Studies On Communication Techniques

Persons, who are deafblind, use many techniques to communicate. Some of the communication techniques they use include; non verbal cues like body movements, breathing patterns and eye opening/poking. Others include alphabet-based communication, like the manual alphabet for the deafblind (see appendix 14), Braille, large print, and block letter writing. Signing systems, speech based symbolic systems, intensive interaction and total communication (SENSE UK, 2012). From the available literature, quite a number of communication techniques used by teachers and learners with deafblindness in the local and international school settings were identified. Some of the communication techniques include tactile and symbolic communication techniques, Uganda Sign Language, Lorm signs, object of reference, touch cues, and verbal cues (for those with residual speech), calendar box communication techniques (see appendix 15) and visual frame signing techniques.

Deafblindness is one of the most challenging, and also the least understood disability. Some people are born with deafblindness, or later become deafblind. These categories are referred scientifically as congenital and adventitious deafblind. The situation comes along with communication challenges (SENSE, 2013). Studies by SENSE-International Uganda program have quoted a mother of a deafblind girl during their home-based outreach visits, when the mother said;

"…because my daughter is deafblind, her eyes seem to be in her hands and she touches people to get clues about who they are". (SENSE, 2011).

The above expression leads to uncomfortable situations among stakeholders that can leads to rejection and isolation of the learners from family members and peers who

may have no recognizable disability in schools. In some cultures touching people as a way of communication may not be welcomed. With such experiences, communication is not properly developed among learners with deafblindness. In the above examples, the mother had to go through traumatizing experiences to explain to people the challenges that her daughter faced as a result of not being able to use vision. The mother went an extra mile to explain that it was the child's way of communicating her needs and understanding of what was around her (SENSE International, 2011). Learners with deafblindness often lag behind in terms of education opportunities because most parents and teachers may not be aware of the importance attached to communication (Rodbroe and Ramsing, 2003).

A similar study done by SENSE Uganda program indicated that when people lose their sight and hearing at advanced ages, they face new challenges related to communication. Such persons become frustrated if they feel excluded (SENSE, 2013). In most cases learners with deafblindness are unable to see body language. However, this should be considered by the partners with whom the learners are communicating with (SENSE, 2013). Observations by SENSE in this area imply that this may not be experienced by teachers in the schools due to lack of knowledge in communication modes used during activities of daily living. It creates challenges in participation and achievement of life skills for learners during activities of daily living.

In addition, learners with deafblindness may find it more challenging in terms of mobility and orientation skills development. As a result, teachers with little knowledge in terms of communicating with learners with deafblindness, may also find

it stressful to find the right help needed for individual educational needs (SENSE-Uganda, 2013). In most cases, teachers tend to give up their valuable support needed for such learners. This observation by SENSE implies that good communication is a crucial aspect in relationship to members of our social groups. People's lives are highly affected by the kind of contact they have with significant others.

According to SENSE-Uganda (2001), a person's quality of life depends on communication that is clear, concise and accessible. Unfortunately some teachers find it quite challenging to effect communication with persons who are deafblind in totality due to imbalances in training (SENSE-Uganda, 2013). According to SENSE, it is noted that with regard to learners with deafblindness, the beginning of a conversation is often subtle and sensitive which creates demands among professionals. Many of the learners with deaf blindness find it challenging to communicate their desires, needs and withes with the teachers or other care givers. This causes stress, anxiety and leads to challenging behaviors in school and at home Buttler (2001).

Van Dijk (2003) postulates that early attempts in communication development could be specific to an individual. It may be discontinued if they do not predictably lead to responses. For example, Pre-symbolic gestures and body movements, which may be an attempt at communication, are often not interpreted as such and will perhaps fail to evolve into more abstract forms. The progression towards symbolic or formal language is often hindered among learners with deafblindness. For example, where the use of such symbolic forms (Braille or Irish Sign Language) occurs, it is often limited. This presents unique challenges to persons who are deafblind and to

professionals providing such educational and support services. Since the introduction of vaccination in Uganda, cases of deafblindness caused by rubella have substantially reduced. Premature birth and pre- and post- natal trauma are more common causes. Genetic conditions can also cause deafblindness. For example, Usher syndrome leads to hearing loss from birth and subsequent loss of vision as a result of the eye condition called Retinitis Pigmentosa (RP).

Studies by SENSE-Uganda development programme, established that there are many learners with deafblindness that have been identified with a range of additional difficulties that make teaching ADLs difficult. This depends on the underlying causes (SENSE-Uganda 2011). Severe disabilities such as epilepsy was discovered as one of such causes. The research with SENSE observed such cases in one of the secondary schools for the deaf in Uganda. Learners in this school are subjected to referrals and are given medication. For example, referrals to Mulago National Referral hospital, Kampala (informal discussions with teachers and adult deaf people). There are also severe physical disabilities, further limiting the child's mobility. Other physical problems (e.g. feeding problems) bring additional challenges. Without early intervention and stimulation, the isolation experienced in the early years has a further negative impact on the potential for language and communication usage.

The use of American Sign Language (ASL) and British Sign Language (BSL) systems to teach learners with low vision are some of the common techniques used in the USA. In Uganda, lip reading and Sign Language techniques are commonly used to teach learners who have some residual hearing and vision. However, a lot of adaptations are still needed in such learners, basing on the child's hearing and

developmental abilities (Sense-Uganda, 2010; Hart, 2006). Other forms of communication techniques used by the teachers include finger spelling, hand-over-hand guidance, and hand-under-hand guidance, adapted signing like tactile communication, the Lorm signing system and coactive signing. Hart (2006) further states that the teaching of communication in American and British schools follows a one-to-one tactile finger spelling approach. This is by way of putting the deafblind persons' hands over the signer's hands so that the learners can feel the shapes, movements, and location of the signs during activities of daily living.

In Uganda, Sign Language still remains a legalized communication technique by both the teachers and parents of learners with deafblindness in schools and in their homes. In addition, most sign language is used by persons with low vision and hearing impairment. In Uganda, the use of Sign Language varies from region to region and from district to district. Attempts have been made to standardize the signs (Uganda Sign Language Dictionary, 2005).

Buttler (2001) further argues that it is quite difficult to identify how a person with deafblindness understands because his/her options of communication are sometimes limited. However, SENSE (2011) observation was that moving a congenital deafblind person from one place to another without any explanation is equally unsettling. The findings concur with the belief that by introducing a tactile technique of communication, it is befitting for learners with deafblindness to exercise some degree of control over their day by day activities of daily living.

Mairs, (2011) also observed that the main barrier that learners with deafblindness experience in their attempt to perform activities of daily living in school is lack of communication. The method of communication used by a learner with deafblindness depends on the amount of residual hearing or sight, and any additional disability that the person may have acquired before onset of deafblindness (SENSE, 2013). Teachers of learners with deafblindness have to cope with such challenges. It is also observed that professionals in the area of deafblind education need regular team meetings in order to improve on communication gaps with the learners (SENSE, 2013). Whereas such specialists are few, such improvements may not happen easily and requires much commitment. Besides, the literature search indicates that there are a limited numbers of teachers of deafblind learners in Uganda. Social interaction after school among themselves is also limited (SENSE, 2013). It has been observed that the lack of proper communication by their care takers and teachers may lead such learners to exhibit bad behavior. Increase chances of being neglected, when they leave school (SENSE, 2011) are therefore eminent.

Patel (2011) further noted that; learners with deafblindness who have some basic Sign Language will need a tactile interpreter. Besides, the teachers have limited knowledge in tactile communication that requires contact for deafblind learners. Literature search indicated that primary teacher training institutions in Uganda have curriculum gaps. This view is supported by Bruce (2005), when he said that communication and language instruction is important in education of children who are deafblind. He argues that Deafblindness severely limits the learner's access to communication and language development and adaptation to the general curriculum (Bruce, 2005). He further points out that many learners who are congenitally

deafblind, struggle to develop symbolic communication. He assumed that Children and adults with congenitally deafblindness, have additional disabilities and often communicate in highly individualized ways not easy for teachers to comprehend.

However, Bruce argument does not take into consideration the situational analysis in Uganda where there is low teacher to pupil ratios in regular classes under the Universal Primary School of 1: 200 or more. According to Bruce (2005), individualized ways means ways that are understood by a specific individual who is deafblind. This involves communication and challenging behaviors. Various authors have researched and found out that such communication techniques are not commonly believed and are often unrecognized and unsupported by communication partners (Romer and Schoenberg, 1991; Dijk, 2013). The implication here is that teachers of learners with deafblindness are bound to face additional challenges in their attempts to identify communication needs of such learners with deaf blindness.

According to Van Dijk (2013) he noted that; assessment and support of a child's pre-symbolic forms of communication is very important to support understanding what the person is communicating about. In the process it helps support the child in learning symbolic forms of communication. This is an area that could be lacking in teachers in schools. If it exists in similar settings, then the chances of misinformation and misunderstanding could also arise. Van Dijk (2003) further noted that by contrast, individuals who are congenitally deafblind are hearing and visually impaired from birth (or soon thereafter). Severe infections in early childhood can cause similar deficits and bring similar implications and apply for those affected from birth. The opportunities for acquiring communication skills are severely limited for this group.

According to a survey conducted by SENSE-Uganda (2007) a local non government organization working with parents of children with deafblindness in the central, eastern and mid western regions of Uganda. The organization found out that established home-based services using the Community Based Rehabilitation approach to address the challenges surrounding the services of children with deafblindness/multi sensory impairment is still lacking. The service delivery model developed by SENSE-Uganda program involves providing training of staff. Provision of finances to partner organizations to carry out identification of deaf blind children, organize assessment programs, design rehabilitation programs, facilitate referrals and deliver home based training in communication, orientation and mobility skills. Training in other activities of daily living is necessary.

Despite all the above, the involvement of a teacher during ADLs, is limited and not clearly spelt out. This is limited as opposed to the approach of community based rehabilitation approach in schools. The achievement of such learners cannot therefore be easily evaluated in schools. To date, similar organizations in Uganda working to support learners with deafblindness are providing rehabilitation services to about 115 children with Deafblindnes. They include SENSE Uganda, and Parents Association of Children with Deafblindness (PACDB). They are supported by community based trainers who are able to conduct home visits. They also receive support in terms of transport and basic training from SENSE-Uganda. Although there was evidence of parental involvement, the issue of the effect of teachers' use of communication techniques during school activities has been left out. My study was based on a school setting, however, most rehabilitation workers were not necessarily trained as grade three teachers. It is important to note here that a grade three teaching certificate is a

requirement for professional primary teachers by the Uganda educational system. As a result, gaps were evident, that influenced the teaching and learning processes of children with deafblindness in the schools studied.

SENSE Uganda (2007) found out that the process of identifying learners with deafblindness for educational services, noted that about 25% of the learners identified were legible to be befitting from the school based education. This creates a bigger demand for schools with a capacity to teach these children. The implication is that there is need for recruitment of more specialized special needs teachers in the area of deafblindness (SENSE, Uganda 2013). The element of communication development, its effects and use among learners and their teachers, cannot therefore be underestimated.

SENSE Uganda (2013) acknowledged that there is need to have a teacher to pupil ratio of 1 teacher - 1 pupil. Their view is that the current teacher to pupil ratio of 4 pupils to 1 teacher is inadequate. Although SENSE-Uganda encourages training teachers under their home based approaches, this may not be easily recognized since the educational system has been liberalized and controlled by the central government. Monitoring mechanisms that are put in place are not keenly followed to fill the gaps observed in teaching learners with deafblindness.

By the time of doing this particular research, there was evidenced that no national policy was in place for Special Needs Education. SENSE Uganda program also identified a shortage of qualified teachers that cannot allow for an increase in the number of schools with specialized units for teaching children with deafblindness.

The implication here is that the government's concern is to put emphasis on appropriate communication techniques to enable a friendly teaching and learning environment in schools.

Appropriate communication intervention begins by determining the child's current level of communication. In addition, Rowland and Schweigert (2000) used the following schema to describe communicative competencies: They considered Level 1: pre-intentional behavior (behavior is reflexive); Level 2: intentional behavior (acting purposefully on objects); Level 3: intentional, pre-symbolic (and nonconventional) communication (expressing for the purpose of impacting another person); Level 4: intentional, pre-symbolic, conventional communication (expressing in more conventional ways with the purpose of impacting others); Level 5: concrete tangible representations (an optional level often using objects or partial objects as representations); Level 6: single abstract symbols; and Level 7: combinations of two to three abstract symbols (which marks the beginning of linguistic performance). A child may express various communicative functions (such as requests, protests, and comments) across more than one level of communication. The Communication Matrix by Rowland (2004), is an assessment tool that captures the levels of communication used to express communication functionality of an individual. Scrutinizing the results from this assessment indicated conformity with the holistic communication profile that is linked to the total communication approach commonly being used by children with deafblindness.

Park (1997) believed that when planning communication programming, there is need to develop representations that are appropriate for each learner. This is understood as

Individualized Education Planning (IEP). This is evident in primary schools in Uganda, where it is the mandate of the educational system to enroll learners in schools of their choice, irrespective of the nature of their disabilities, gender or social status, colour or race among others. However, the trend has since changed after the introduction of the policy of Universal Primary Education (UPE) in 1997 (Ministry of Education and Sports, 2010). This could be more challenging to the teacher of learners with deaf blindness. It is important to determine the appropriate level of representational complexity, in addition to considering what the child might need in terms of communication, during daily living activities to be represented. Opportunities to rehearse the use of representations are vital.

Park (1997) further described the following three levels of representation as; icons, indices, and symbols. Icons bear a strong perceptual resemblance to the referent (what they represent). Perceptual similarity may be grounded in vision, hearing, touch, or movement (such as the iconicity of photographs over line drawings or some signs over others). Indices share a relationship, such as smoke to fire or car keys to going for a ride in an automobile. Perk (1997), observes that symbols are the most abstract level of representation because they do not look or feel like the referent. He points out that it is possible for a child to use some symbols (especially those that have been rehearsed within routines) prior to being a symbolic communicator. The achievement of symbolic communication occurs when distancing is resolved, allowing the child to use abstract symbols to express ideas with separation in time and space between the symbols and the referents (Bruce, 2005).

2.2.1 Communication Techniques Used by Teachers During ADLs

Dessy and Lyddy (2006) state that persons with deafblindness experience challenges in communication. This observation implies that; teachers may face challenges in identifying the different communication techniques to teach learners self help skills since teachers may be lacking communication skills. This implies that teachers cannot meaningfully teach learners self help skills due to communication gaps that hinder abilities to communicate sequenced routine activities. This challenge applies to more especially with learners categorized with congenital and adventitious deafblindness. The Croatian Deaf blind Association (2005) noted that children with deafblindness live in the dark world. A dark world meant that the children are left in isolation without any interaction with others within their reach. Living in a dark world may also imply that there is no communication at all and hence the needs of such learners are not met. It means there is no meaningful interaction between the learners and their peers and the teachers themselves during play and yet play is observed as one of the stimulant for communication to thrive.

According to Vilhelsen (2005); Boothroyed and Hampton (2003) they point out that children with deafblindness cannot express themselves. This meant that learners lacked self esteem. The researcher's interpretation of this was that; when self esteem is lost, there is a likelihood that teachers will not be in position to easily identify the likes, dislikes and the challenges such learners face during ADLs. Leela (2004) also adds that is still a challenge due to lack of communication. While Afufu (2004), states that deafblindness is associated with isolation. Although the consequences of isolation are broad, learners with deafblindness suffer most. It means that their levels of achievement may be underestimated in the long run. Afufu's observation also

implies that the teacher to pupil interactions during ADLs can never be forced when a child is not simulated to do so.

The four aspects of communication discussed earlier include the Form, Function, Content, and Context is a theoretical framework linked to development of communication in children who are deaf-blind (Bloom and Lahey, 1997). Miles and Riggio (1999) and Downing (2005) used a similar framework to organize content in their communication textbooks. Bloom and Lahey (1997) in their theory of language and communication, refer to receptive and expressive modes of communication such as verbalization, body language, gestures, and Braille. Function is the perceived intent of the message sent (across forms). Content is the message itself, simplistic to identify when spoken or signed but complex to determine when expressed through vocalization.

Bruce (2002) defined the following five components of the aspect of context: physical environment (such as lighting and noise level), individual characteristics (personality and disability characteristics), activities and routine (which determine the range of sensible messages and opportunities to communicate), communication partners (including their skills and the opportunities they create), and the process of communication (initiating, sustaining, and terminating conversation across forms). The four aspects serve as the primary organizational structure for the holistic communication profile. Markova, (2008) argues that communication is an essential feature of humanity. It is more than mutual understanding and an exchange of messages. It is also an activity through which every human being expresses his or her

immediate needs (Markova 2008). Communication and social interaction are therefore closely related.

Social interaction is understood as the process in which two individuals mutually influence each other's acts. Communication is closely linked to a form of interaction in which meaning is transmitted by the use of expressions that are perceived and interpreted by the partner (Bjerkan 1997, Nafstadt and Rodbroe 1997; Janssen, 2003). Whereas social interaction gives rise to individual capacities such as self-awareness, representation, language and consciousness (Zeedyk, 2006), the agency grows. People with Congenital DeafBlindness (CDB) are particularly vulnerable in social interactions and communication. There is also a parallel thinking between the hearing/seeing people in the outside world and the person who is deafblind. The risk of being restrained in development and achievement to a larger degree than the innate potentials, give reason for it being extremely high for persons who have this disability (Zeedyk, 2006).

Zeedyk (2006) further says that the challenge is to decrease this asymmetry so that hearing/seeing persons and persons with congenital deafblindness understand each other. Janssen (2003) and colleagues further noted that for the past few decades there has been a witness of an increase in research by renowned researchers designed to obtain more knowledge and insight into communication between the congenitally deafblind and adventitious deafblind child/adult and their teachers. The aim of their studies was to improve the quality of interaction between persons with deafblindness and their educators (Janssen, Riksen-Walraven, and Van Dijk (2006). Van Dijk (2006) and his colleagues have documented that the competent partner who is alert,

makes good observations, and attunes his attitude and behaviors to the congenitally and adventitious deafblind persons. Van Dijk's observation, offers good conditions for communication.

However, according to Goode (2004), his view is the contrary. Goody (2004) noted that during receptive and expressive communication between two persons with deafblindness, there is not always a partner who is competent in terms of language. In his book 'A World without Words', Goode (2004) described the importance of taking the perspective of the person who is deafblind in order to understand his world. This leads to the question by critiques of this argument like Van Dijk who had concerns when he sked that 'Is it possible that, between two persons with congenital deafblindness, part of the asymmetry problem will be resolved because they understand the world from a similar perceptual (tactile) starting point?' In this case, the teacher and peer interaction would be very important.

Empirical studies by Van Dijk (2006) further point to the same direction on interaction/communication processes between peers can teach us about the way they meet each other and the possible strategies they use. For example he cited a study done on the group at Kalorama, a residential institution for persons with deafblindness in the Netherlands. The centre had eight persons who lived together. In this study one group had learners with congenital deafblindness. Observation in this group showed that there was less contact realized between the persons with congenital deafblindness, especially between pairs. The findings of this study showed that most of the times deafblind persons were seeking to contact the support workers/teachers to ask or to tell them something. The same study reported yet another group, consisting

of eight persons with acquired deafblindness; where there was evidence of communication between several of the group members. This findings support the theory of social interaction I used for this study.

Persons, who had acquired a hearing loss and visual impairment later in life, have the possibility to explore the world with some residual hearing or sight, participate. They make sense of their circumstances and, depending on their mental capacities, learn to interact and communicate with other persons. For persons with congenital deafblindness, it was much more difficult to interact, because they became deafblind from birth (Van Dijk, 2006). Comparing the two categories (congenital and acquired deafblindness), some questions then seemed to emerge. These questions were in line with this particular study in Uganda. Van Dijk identified questions that emerge such as;

"is there reason why the communication patterns in the first category differs so much from the second group? Had they been discouraged from interacting with each other because they did not get an adequate response? Has too much emphasis been put on imperative communication strategies, only to obtain their needs?"

The researcher found this contextually different since the setting in Uganda schools studied, somehow looked quite similar. The aspects noted above were the contrary in the context studied by Van Dijk. For example, the two schools of this study drawn from the east and mid wetern region in Uganda had learners mixed learners, including learners with deafness, hearing children and learners with deafblindness. Their needs were different although shared the same compound and attended different classrooms. This observation is in tandem with the educational system in the Scandinavian schools

such as in Denmark (Rowland and Scheweigert, 2000); where body signing and key word signing techniques are recommended and encouraged in most schools.

Some of the communication techniques used in Danish Schools included tactile representation, Touch cues, Lorm Signs and the use of real objects and objects of reference. The Schools also use the Screen Braille Communication (SBC). The SBC system enables the teachers to type text information on the key board while the deafblind learners read printed text, by way of placing their fingers on the Braille display machine (Marianne, 2008). Teaching learners with deafblindness is supplemented by the use of assistive technologies in schools such as the Tele Braille and hearing aids in the United States of America and United Kingdom (Hart, 2006).

Noting from the same study by Van Dijk (2006) in Kalorama, the purpose was to provide a better understanding of the difficulties in communication between two teachers and learners with congenital deafblindness and the role of the support worker in scaffolding the interactions. When looked at critically, the focus of the above study was on improving dialogical communication between two persons with congenital and adventitious deafblindness. The settings in Uganda looked similar although the modes of delivery differed from that offered from Kalorama. The role of a teacher is also emphasized in that process. The same study assumed that a small degree of evidence that points out the fact that interaction and communication can occur between peers with congenital deafblindness was evident. These studies are similar in contexts with this particular research done in rural and urban settings like in Iganga and Masaka districts in Uganda. Although the regions were far apart from each other,

the effects, challenges teachers faced and needs of the learners looked the similar from the two schools.

Markova (2008) emphasizes that this means an enormous step forward for persons with deafblindness to enlarge their world and their future and their quality of life are realized. Reference is made on the similar research done by Van Dijk in Kalorama. Van Dijk carried out a study on the concept of one to one communication techniques. His findings noted that the fundamental capacity of the human mind to conceive, create and communicate about social realities in terms of otherness. This studies put together lead to the following general research question of my study; What are the effects of the teachers' use of communication techniques for achievement of activities of daily living by learners with deafblindness in primary schools in Uganda?

2.2.2 Communication Techniques used by Learners with Congenital and Acquired Deafblindness

According to literature reviewed from SENSE international UK, the communication techniques used by learners with deafblindness depends on the degree of residual sight or hearing. In addition to other acquired additional disabilities the person posses. His or her needs also vary accordingly and may change during his or her life time (SENSE, 2013). Such changes create extra demands in communication among professionals working with such learners. However, SENSE, Uganda deafblind development program (2013) further states that in order to improve performance, professionals working with children who are deafblind need to meet regularly as a multidisciplinary team to share information and latest developments in communication with such learners with deaf blindness. Where professionals are few

or do not exist at all in some regions, such improvements may not occur in schools. This was observed in the regions of study in Uganda. The challenges of the policy of free Universal Primary Education in Uganda, where the teacher pupil ratio is very low, gaps of this nature are reported (Ministry of Education Sports, 2010).

Teachers in American and British schools use the Tele Braille displays communication technique to teach learners with deafblindness. This system involves learners with deaf blindness typing back for the sighted persons to read the texts on the digital screen displays. That makes it easy for learners to communicate and participate well during ADL. The above categories still require more adaptations to enable learners gain skills for achievement during ADL in schools. A similar research was conducted by the Uganda Ministry of Education and Sports, Science and Technology. This research showed that; Teachers of learners who are deafblind studied under the government policy of Universal Primary Education (UPE) still remain unrecognized. They have not developed and adapted to the use of modified technological communication strategies like those in the developed world referred previously (Ministry of Education and Sports, 2004).

Studies have proven that support provided to children with deaf blindness will break barriers to learning, increase participation and create a sense of belonging and achievement (Mairs, 2011). Accordingly, Bruce (2005), identified the following cognitive and social milestones considered to be pivotal because their achievement influences development in multiple domains, these include communication: joint attention, imitation, means, end, object permanence, discrimination, and categorization. Although there is research evidence on the importance of these

milestones for children with intellectual disability, visual impairment, and deafness there is need to do more research for children who are deafblind. The same category may also have some additional intellectual disabilities. Such disabilities may tend to be a challenge to language acquisition and subsequent use by the teachers and the learners.

Joint attention is the attention shared between two people and extended to include shared attention over objects. While sharing attention over objects, adults are able to teach children about the properties of the objects. Understanding communicative representations of objects is founded on knowing the properties of the objects. Being able to discriminate one object from another and the ability to hold thoughts about the objects is considered important (Pennington, Lloyd, and Wallis, 1991; Werner and Kaplan, 1988). Full mastery of object permanence (knowing that an object still exists when it is out of sight and touch) is associated with the achievement of mental representation, symbolic play, and language development (Lee, 1993; Wright, Lewis, and Collis, 2006).

One must be able to discriminate one representation from another in at least one form of communication, to support vocabulary development. However, despite the emergence of the above, the question that still remained in the researcher's mind was how beneficial it will be for persons with congenital deaf blindness to conceptualize how the teacher instructs during ADLs? Categorization is an outgrowth of the maturing ability to discriminate. With categorization one can classify or group objects or events by some perceptual or conceptual principle or rule that requires discrimination (Berk, 2006).

Visual self recognition is another milestone that is often reported as pivotal to language use and development for deafblind learners (Nielsen, Suddendorf, and Dissanayake, 2006). However, more research wants to explore non-visual forms of self recognition and the relationship of self recognition and the broader concepts of individual and self-awareness to the development of communication and language in children with multiple disabilities and blindness. According to Clark (2000), the development of a warm, secure and trusting relationship between the learners and adult teachers is core in the educational approach using the school based system. Clark (2000) emphasizes that it is only through such bonding that the learner who is deafblind will allow the adult to become part of his/her world and to interact freely with the adult in a positive and meaningful way (Clark, 2000).

The above observation concurs with the learning environment of my study where learners who were deaf, hearing and deafblind shared ADLs. As explained earlier, dialogicality is the fundamental capacity of the human mind to conceive, create and communicate about social realities in terms of otherness. It implies that persons with deablindness feel the same needs from the time they are born so that they are able to share experiences, feelings and thoughts. They are able to communicate with other people about their daily life (Van der Heijden, 2009). For example, imitation is a confirmation receipt that can be used at an early age (Hart, 2006).

Hart emphasizes the importance of an accessible environment and acknowledged that a lot of research has been done so that partners make the environment accessible, meaningful and interesting for the deafblind persons (Rodbroe and Souriau, 1999). Nafstad and Rodbroe (1999) further noted that to improve the quality of interaction

for a deafblind person, the motivation of both partners must emerge from a positive experience of togetherness. Without a reciprocal, positive emotional engagement, it will not be possible to create this motivation. Rodbroe and colleagues have proven that the way persons with deafblindness imitate interactions and respond to an act of the partner is often slower, more subtle and more difficult to predict than that of sighted and hearing persons (Rowland, 1984; Preisler, 1993).

The learners with deafblindness often miss out on how things should be done in their surrounding environment. Their partners or teachers often may find it challenging to understand them. However, this is linked to the argument that the heterogeneity of deafblind learners cannot be over looked. Their imitation and actions during active communication between deafblind persons sometimes may not be seen in the short run. According to Rodbroe (1999) the understanding is that when a person with deafblindness acts, no body reacts. For the interaction partner of persons with deafblindness, the only way to create reciprocity in the interaction is to be responsive to the initiative they make in creating predictable social play events. Imitation has been rated one of the best strategies in social learning.

Rodbroe (1999) further argues that partners working with children, who are congenitally deafblind, can adapt this strategy to create more dialogue with their students. He believed that children with deafblindness become aware of social reciprocity by knowing how to attract the attention of their partner. This process may not be adhered to in some contexts. Rodbroe (1999) acknowledges the fact that if followed properly, this process makes persons with deafblindness to feel that they are seen as persons and are able to influence their partners. This triggers more and new

activities (Nafstad and Rodbroe, 1999). The person with deafblindness will be able to regard a communication partner during social interaction. Some authors acknowledge that communication is always believed to be asymmetric meaning that one participant always dominates, temporarily, either in terms of knowledge or status, or even in terms of the capacity for communication (Markova, 2008). The author emphasizes that a human being is a social being and the deafblind person needs an environment for social interaction. Sometimes persons with deafblindness may not be given the opportunity to act as a partner. In order to build up the idea of reciprocity in persons with deafblindness, the interaction partner needs to create special games or rituals. For example, the tag, hide and seek games during activities of daily living.

The environment where learners with deafblindness will be nurtured, educated and led out of the unpredictability of his/her isolation must be a reactive one (Markova, 2008). According to Janssen and Rodbroe (2007), they noted that a reactive environment is characterized by: a) emotional bonding and, as the child grows and develops, social responsiveness; b) problem-solving to reinforce the development of a positive self-image; c) utilization of residual vision and hearing, and integration of input with that from other sensory modalities; and d) communication with an emphasis on dialogue. The interaction partner is the one who creates the experiences and who scaffolds rituals and routines in such a way that the person with deafblindness likes the activities, feels secure and knows what is going to happen (Janssen and Rodbroe, 2007).

Janssen and colleague believed that teachers should have competences. However, the measurement of competence had been criticized earlier and may vary in different

dimensions. Mutual attention is a prerequisite in order for interaction to emerge and continue. There is a need for the partners to be available for one another; in other words, there is a need for closer contact. The opportunities for the learner with deafblindness to be involved in interaction and communication will depend on the responsiveness of the communication partner. Sensitive responsiveness is the skill of perceiving and interpreting the behavior of a child as a possible communication by reacting immediately so that the person feels understood (Janssen and Rodbroe, 2007).

Janssen and Rodbroe (2007) further pointed out that; it is obvious for persons with congenital deafblindness to work with partners who are very creative. The partner must be able to offer variations and a new theme which is so close to the deafblind individual's own limited perception. A person with deafblindness is believed to experience the contribution of the partner as coherent with his own contribution. If the behavior of the partner is too different from that of his own, it means that he can hardly be expected to experience a self-other contingency (Nafstad and Rodbroe, 1999). According to Clark (2000), communication techniques are important strategies that allow persons with congenital and adventitious/acquired deafblindness to interact effectively with other people. Clark believes that development of a warm, secure and a trusting relationship between learners with deafblindness and their teachers is important for a healthy educational approach. He noted that it is only through such bonding that the deafblind child will allow the teacher to become part of his/her world by interacting freely with him in a positive and meaningful way (Clark, 2000).

Dialogicality is the fundamental capacity of the human mind to conceive, create and communicate about social realities in terms of otherness, congenital and adventitious deafblind persons also feel to access their needs from the time they are born to share such experiences, feelings and thoughts. They need to communicate with other people about their daily life (Van der Heijden, 2009). For example, imitation is a confirmation receipt that can be used at an early age (Hart, 2006). Hart further noted that the importance of an accessible school environment should also be emphasized. Partners must make the school environment accessible, meaningful and interesting for the learner who is deafblind (Rodbroe and Souriau, 1999). Nafstad and Rodbroe (1999) have argued that; to improve the quality of communication and interaction for learners with deafblindness, the motivation of both partners must emerge from a positive experience of togetherness. The authors further state that, without a reciprocal positive emotional engagement, it will not be possible to create this motivation.

Learners with deafblindness imitate interactions and respond to an act of the partner in a slower, more complex and difficult to predict than that of sighted and hearing persons. It gives a challenge to the teachers during their instruction of ADL in schools (Preisler, 1993). Preisler further pointed out that, learners with deafblindness in most cases miss out information because their partners do not understand them clearly. Their imitations and acts may sometimes not be seen immediately. In most cases when they act, nobody reacts. He reasons that for the interaction partner of persons with deafblindness, the only way to create reciprocity in the interaction is to be responsive to the initiative the deaf blind persons take in creating predictable social

play events. Various studies have been done on imitation. It has been rated one of the best strategies in developing communication and social learning.

According to Nasfstad and Rodbroe (1999), partners working with congenital and adventitious deafblind learners, can adapt this strategy to create dialogue with their students. The learners with deafblindness will become aware of social reciprocity by knowing how to attract the attention of the partner. They learn how to trigger the partner to react to him/her. They further believed that this process makes a person with deafblindness, to feel that he is seen as a person and is able to influence the partner, which then triggers more and new activities (Nafstad and Rodbroe, 1999).

One participant in communication always dominates temporarily, either in terms of knowledge or status, or even in terms of the capacity to communication (Markova, 2008).

Markova states that, sometimes persons with deafblindness may not be given the opportunity to act as partners. By doing that such a person is deprived of his participation and achievement. He also emphasized that a human being is a social being and the person with deafblindness needs a secure environment to communicate for social interaction. In order to build up the idea of reciprocity in deafblind persons, the interaction partner needs to create special games or rituals during daily activities. The environment where a learner with deafblindness will be nurtured, educated and led out of the unpredictability of his/her isolation must be a reactive one.

Markova (2008) further noted that a reactive environment is characterized by emotional bonding and as the child grows and develops, social responsiveness will grow. Problem-solving to reinforce the development of a positive self-image and

utilization of residual vision and hearing will be achieved. Integration of input with that from other sensory modalities; and communication with an emphasis on dialogue will be realized.

Janssen and Rodbroe, (2007) further noted that the interaction partner is the one who creates the experiences and who scaffolds rituals and routines such that the person with deafblindness likes the activities, feels secure and knows what is going to happen. Janssen and colleague further noted that such a person is referred to as one with technical competence. They emphasize that mutual attention is a prerequisite in order for communication and interaction to emerge and continue. They observed that there is a need for the partners to be available for one another; in other words, there is a need for closer contact during communication. Opportunities for learners with deafblindness to get involved in interaction and communication will depend on the responsiveness of the partner. Janssen and Rodbroe, (2007) further noted that sensitive responsiveness is the skill of perceiving and interpreting the behavior of a child as a possible communication and by reacting immediately in such a way that the person feels understood.

The authors note that learners with deafblindness need partners who are very creative. The partner must be able to offer variations and a new theme so close to the deafblind individual's own limited repertoire that he or she experiences. Care needs to be taken that the contribution of the teachers, is coherent with their own contribution. If the behavior of the partner is too different from that of his own, he can hardly be expected to experience self contingency (Nafstad and Rodbroe, 1999). Communicating with persons who are deafblind is viewed as a form of interaction in which meaning is

transmitted by the use of signals that are perceived and interpreted by the other partners through touch and feeling during dyadic and triadic communication (Rodbroe, and Janssen 2007). Communicating with learners who are deafblind in this way will depend on the severity of the impairment. It can take place between learners, teachers and care givers during formal and informal dyadic and triadic social interactions in school and at home (Rodbroe and Janssen, 2007).

Research finding from the Uganda Ministry of Education and Sports, Science and Technology (MoESST) on the performance of Special Needs Education Schools on the thematic curriculum has indicated a significant lack of adequate communication techniques among teachers in various primary schools. The report noted in subject content delivery in the area of activities of daily living and pre-vocational activities, (Ministry of Education Sports, Science and Technology, 2010 online citations). The same report indicated that; most of the learners with deafblindness in the eastern and mid-western regions in the country were not doing well in terms of teaching the thematic curriculum. If this challenge is noted among regular teachers then the learners' with deafblindness are no exception. Other forms of disabilities are not benefitting, deafblindness inclusive.

The thematic curriculum is taught in the local spoken dialects. However, there is no clear mention of how it is being conducted to learners with deafblindness. The report findings indicated that most teachers who handled such learners were not exposed to other communication techniques like sign language and Braille. Teachers instead relied on using real objects and objects of reference with the help of locally un-adapted gestural communication signs to structure activities of daily living for the

deafblind. Janssen and Rodbroe, (2007) note that language is one of the challenges encountered by the teachers during their work with learners who are deafblind. He adds that there are cues that could be easy to follow. For example, head turning and directional gaze, are weak, non-persistent or not present in deafblind persons. This could be misunderstood by the teachers. The authors seem to imply that; teachers have to take keen interest to look for and interpret attention cues. This could still be more challenging for the teachers to discover and react upon. Janssen and Rodbroe (2007) gave an example of attention to sound (active listening) which often looks like passivity and is not reacted upon in a way that shows joint attention, during triadic and dyadic communication processes.

2.3 Sign Language Communication Techniques

Sign Language communication techniques include formal one hand or two hands signing, visual signing, hand on signing; sign supported English, haptic signing, and the Makaton signing system. Others are speech based communication like lip reading and Tadoma, adaptive signs; tactile finger spellings are some of the systems used by learners who are deafblind. These techniques vary from country to country and from one individual learner SENSE UK, (2012). Signing systems from different countries includes, for example; British Sign Language (BSL), Danish Sign Language (DSL), American Sign Language (ASL), Uganda Sign Language (USL) and Kenyan sign language (KSL). Visual frame signing system included. The visual frame signing system is mainly for persons with limited or low vision. Such persons with partial vision can also perceive sign language clearly if the signs are placed within the reach of the remaining field of vision, alongside hands-on signing (Stuart 2002).

Some learners use tactile or hands on signing by placing their hands over the hands of the signer. However, Sign Language communication technique is not universal. Each country has its own type with some similarities cutting across from country to another. Stuart, (2002) notes that many learners with deafblindness, can benefit from exposure to signs as one of the cues to the spoken word. He noted that learners with congenital deafblindness use signs as their primary language of communication. The author further noted that the core issues that the teachers of learners with deafblindness need to consider are; the child's strengths, the class room learning environment, and the school policies in place. According to Stuart (2002), the learner's vision should be sufficient enough to discriminate between signs, and his or her ability to use such cues from lip-reading to augment signs and closeness to the signing space. The ability to have sufficient motor control to make signs clearly at reasonable speed with accuracy is also needed. This research was to investigate how that actually happens in reality and to examine its application in primary school educational settings in Uganda.

Stuart (2002) distinguishes teachers across schools in the United Kingdom who make practical arrangements that ensure learner's access to signs and assistive technologies around them as much as possible. However, Stuart (2002) emphasizes the use of the visual environment to have good quality of lighting, appropriate sitting arrangement and furniture so that such learners perceive and interact well with their peers and teachers during communication. He adds that this practice exposes teacher's to challenges in turn taking that could allow the learners to provide feedback using their preferred mode of communication (Stuart, 2002).

Stuart's reasoning does not, however, take into consideration the existing conditions in primary schools under the policy of Universal Primary Education (UPE) in Uganda. This policy experiences challenges of low teacher to pupil a minimum ratio of 1:6 learners with deafblindness and 1: 200 and above for learners without disabilities. Inadequate instructional facilities are eminent. In Great Britain, the British Sign Language (BSL) is widely used by both the deaf and deafblind learners with its own grammar, word order and idiomatic expressions. This is different from the various communication modes used by learners with deafblindness and that of spoken English grammar used by other learners without disabilities in Uganda. Stuart noted that learners seen to develop good signing abilities are encouraged to get exposed to British Sign Language (Stuart, 2002). He noted that the British Sign Language system has many regional dialects.

By the time of doing this research, the above observations were evident in Uganda educational system with similar challenges. Stuart emphasizes that; signs that are used in some parts of England such as in Scotland might not be understood well in southern England. In the same vein, Ndeezi, (2004) emphasizes that teachers in schools for the deaf and deafblind in some regions do not use the same Sign Language like the signs used in central Uganda. He noted that this is due to differences in sign language development, training and exposure. Some signs are localized and only commonly used in the city and town centers where communities of deaf persons are enlightened (Ndeezi, 2004). Uganda Sign Language may present some challenges among teachers and learners with congenital and acquired deaf/blindness due to the existing regional variations and socio-economic factors. A variation in language development in this case still remains a challenge.

According to SENSE UK (2012), the Haptic signing technique system is becoming more recognized as a form of communication that can be used by deafblind people to supplement the information they receive by their main receptive method of communication, e.g. speech or sign language. It consists of tactile signs describing the environment, emotional responses, descriptions of people and other additional information which would otherwise be provided by sight. The signs are given through touch, commonly to place on the back, but it can be anywhere on the body that doesn't interfere with other communication methods being used that the recipient is comfortable with. The use of this kind of communication is not evidently documented in Uganda.

The Makaton signing system is commonly used in British schools, compared to the local gestural language used by learners of advanced school going age. This comes with its challenges for both learners with multi-sensory impairments and their teachers. For example, families of such persons turn to using personal signs that are known by deafblind persons alone, their family members and a few close friends. The same challenges have been observed among teachers in Uganda who were trained using the British or American sign systems in Uganda. For example, the teaching staffs from the schools of this study received training from Perkins School for the deafblind in America and the Danish volunteers (Sense-Uganda, 2010; Interviews from participants). The differences in these regional variations indicated significant differences in Uganda Sign Language used in schools (Ndeezi, 2004).

Adaptive signs are some of the techniques used by deafblind learners. They can be understood as those sign that have been agreed upon by families of persons with deaf

blindness or partners/teachers working with learners with deafblindness. This signs differ from family to family. They can be modified along the way when they are constantly being used. They are often chosen because they are closely associated to the activity which a deafblind learner is involved.

2.3.1 Tactile Communication Techniques

The tactile Sign Language includes finger spelling. It is used by learners with deafblindness who lose their hearing and or vision later in life. The deafblind learner may prefer to place his hand over the finger spelling hand or on the signers palm or by cupping his or her hand on the signers' hand. They support the learner to communicate through symbolic and non-symbolic means (American Association of the Deaf Blind, 2010). A symbol is something that stands for and represents something else (referent). Objects of reference cues use objects and activities to match with the communication patterns between the deafblind learner and their partners. Textual materials such as sand paper or bubble wrap are used as abstract tangible symbols to promote communication with learners who are deafblind. They are also used to elicit requests and provide choice, making opportunities when following tactile characteristics (SENSE-India, 1997).

According to Stuart (2002) persons with deafblindness who use Sign Language but have no useful vision for taking in signs visually receive it tactually. This means that as you sign to the deafblind person, they place their hands lightly over yours and feel your signs. This requires a partner to sign in a smaller pace than usual, so as to relieve the stress on their arms and shoulders. Let the persons with deafblindness choose how to place their hands. They know what placement helps them understand

best. Resist the temptation to sign big, exaggerated signs, because this ends up in extremely sore arms and shoulders for both partners the next day.

Stuart noted that this required an advanced knowledge of sign language so that one knows how to make signs more neutral in space without losing their meaning. The signs used are the same, except for some occasional modifications to make up for lack of facial expression and to disambiguate some signs that are hard to distinguish by touch. Usually this is done by finger spelling the sign right before or after signing it, or by coupling it with another sign. According to Stuart (2002); American Association of the Deafblind (2010); and Frankel (2002), the tactile signing technique involves the following signing aspects;

Hand – over – hand. Also known as hands-on-signing implies when receiver's hands are placed upon the back of the hands of the signer to read the signs through touch and movement. The sign language used in hand-over- hand is a modified version of the local sign language; this is the case when used by people of Usher syndrome. This category first loses their hearing, and later their sight (Lieberman & Stuart, 2002). The sign used may also be a manually coded version of the local oral language (such as signed English).

Tracking. The receiver holds the wrists of the signer to keep signs within field of vision and gain information from the signer's movements. This is used when the receiver has a limited field of vision (American Association of the Deaf blind, 2010).

Tactile finger spelling. (Deaf Blind alphabet): Every word is spelt out using the manual alphabet. Different manual alphabets can be used such as the American Sign Language alphabet where the receiver places the hand over the back of the hand of the signer. It can be a two handed alphabet. It is often used as the alphabet adapted for

deaf blind communication (Frankel, 2002). This is known as the Deaf blind alphabet. Letters are formed on the palm of the receiver's hand. For example, a tap for 'yes' or a rubbing notion for 'no' may be included (Frankel, 2002).

Co-active Signing. The sender moves and manipulates the hands and arms of the deafblind person to form sign shapes, or finger spelt words. This is often used to teach children with deaf blindness to learn signs and those with additional intellectual disability.

On-body Signing. The body of a person who is deaf blind is used to complete the sign information with the other person e.g. Chin, palm, or chest.

Lorm signing system. A hand-touch alphabet developed in the 19th century by a deafblind inventor and novelist Hieronymus Lorm and is still used in Europe. There is no evidence of it being used in Uganda

Tracing or 'print-palm'. Tracing letters (or shapes) on the palm of the receiver. Capital letters produced in consistent ways are known as 'block alphabet' or the 'Spartan alphabet'.

Braille Signing. Braille is a system of touch reading and writing in which dots represent the letters of the alphabet. Braille is read by moving the hand or parts of the hand from left to right along each line. Both hands are usually involved in the reading process and reading is generally done with the index fingers.

2.3.2 Calendar Boxes Communication Techniques

The Calendar boxes communication technique plays a role in supporting and expanding the learners' communication abilities in the four areas that include; communication forms/symbols, communication functions, topic development, and social conversations (Rowland and Schweigert, 2000). This system helps the person

with deafblindness, follow activities and interact meaningfully with the environment as a function of time. The system helps to anticipate the activities of the day and those of the coming days, week in a systematic sequence. They help the teachers to transit from concrete to abstract forms of communication. In the process, deafblind learners use the calendar system to enable them make clear; the beginning, the middle and the end of a day's activity. It also indicates the time concepts such as before, after, later and now (Stuart, 2002).

Stuart further notes that the approach means presenting an object or symbol to represent what is coming next and putting it in a "finished box" at the end of the activity. Stuart further points out that, most teachers often face challenges to follow this trend when handling learners with deafblindness during complex activities of daily living. He noted that some learners experience multisensory impairments which interfere with their cognitive abilities. The calendar systems provide a structured way in which teachers and care takers can refer to events in a learner's day. This could be arranged in "anticipation boxes" or "objects cues", or a series of meaningful symbols arranged in sequential order to let the learner know what will happen next during the day. However, some learners may have additional cognitive disabilities like autism, attention hyperactive disorders, may disorganize the arrangement of the calendar system. This is often a challenge to teachers to structure communication and activities of daily living effectively (Stuart, 2002). However, the object of reference presented depends on the aptitude of the individual. This can also be challenging to the teachers due to the nature of multisensory impairments that accompany deafblindness.

According to Miles (2004), he points out those educational strategies can use objects of reference for creating dialogue with individuals with deafblindness. He explains that conversations can be established and maintained by representations in book form or in storyboards. Experiences can be communicated and relived by the individual with deafblindness by using the objects of references as cues. Sign systems can be used in conjunction with objects in order to promote, and assist with dialogue. A discussion book or a three-dimensional scrapbook can be prepared by using familiar objects from a particular activity. A discussion of this kind allows the individual to reflect on an event that happened in the past (Miles and McLetchie, 2004). The most important thing is to use what the individual finds motivating in the given situation and use that object as a reference to effect a conversation about shared experiences (Miles and McLetchie, 2004).

2.3.3 Visual Frame and Block Signing Techniques

Visual frame signing system makes use of the remaining field of vision to communicate word by sight. Its origin is from the British Sign Language which is adjusted to make the best use of the signing frame. The person can see with their much reduced vision (Scotland Association of the Deaf blind, on line source). It is also associated with the lip speakers repeating what is being said without using their voice. A deaf person can also lip read them easily. They produce the shapes of the words clearly with the flow, rhythm and phrasing of the speech. Natural gestures and facial expressions are used to make the lip reader follow what is said and they use finger spelling if they are asked. The Block technique is under this technique. This means the letters of the alphabet are written on the palm of the deaf blind person using the forefinger.

However, it is sometimes used to introduce the idea of tactile communication. The other is the key board interpreting. It is sometimes known as speech to text reporting. This is mostly used by people whose first language is English or any other spoken languages. It involves typing speech on to the computer word for word, so that it can easily be read by persons with deafblindness. It involves specialized computers. Key boards are used and the text is keyed in slightly slower than the speed of the speech. The other technique under the visual frame signing is the Braille and Moon methods. This alphabet was invented by a Frenchman, Louis Braille with acquired deafblindness as a result of an accident in his father's workshop. The Braille has a system of six raised dots that can be combined in a number of ways to produce the alphabet, numbers, music and scientific symbols. It is on record that blind and deaf blind people all over the world use Braille for reading and writing. Associated to the Braille is the signing techniques called Moon method.

The moon method is utilized by persons who become blind later in life. It is believed to be easier to master. This system of embossed reading was invented by Dr. William Moon in 1874. He become blind at the age of 21 and while he was teaching peoples how to read, he found out that many struggled to grasp Braille. Dr Moon invented an alternative alphabet consisting of 14 characters. It is used in various positions. His keenness to enable people read the bible was recognized all over in many societies, more especially the church missionaries worldwide. Some persons affected by deafblindness can retain some useful sight and in such cases communication techniques such as visual frame signing can be used successfully. However, by the time of writing the thesis, there was no available literature to explain its use in Uganda and across East Africa.

2.3.4 Imitation Communication Technique

Imitation has been identified as one of the most potential technique of communication used by deaf blind learners. Bruce (2005) identifies imitation as one of several development milestones that support the development of symbolism or abstract representation necessary for language development. In addition, Hart (2006) also identified key functions that imitation plays. He noted that imitation attracts attention and serves as a powerful mechanism for obtaining, sustaining and regaining interpersonal togetherness (Hart, 2006). Hart (2006) further notes that the immediate confidence buildings are effect of recognizing. He explains that in order to do that, teachers have to get a means of attracting attention of a potential communication partner. Hart (2006) further states that imitation is vital for recognition of the communicative partner by the deaf blind person. This kind of interaction is considered, as a one to one communication between the teachers their learners.

2.3.5 Use of Gestures and Cues

Gestures or non verbal communication and body language communicate as effectively as words and may be even more effectively. Gestures daily are used as they are woven inextricably into our social lives. For a deafblind individual learning to communicate and express his or herself through gestures is very difficult. Some deafblind children express their needs through vocalizations such as crying, cooing, and babbling. A cue is a prompt that is individualized for each deafblind child and is used to encourage a specific behavior. It is dependent on specific activity or context. For example tapping a child on chin may be a prompt for “open up mouth” if a caregiver wants to brush Child’s teeth, or for “take a bite” during meals or “close your mouth” to prevent drooling (Stuart, 2002). According to Stuart, the same cue will not

be used for all these. For each of these actions there has to be a different touch cue. There are different types of cues that are used in developing communication in children with deafblindness, namely touch, movement, contextual cues and object cues (used for receptive communication). Gestures and cues are some of the ways to let learners with deafblindness know what is about to happen to them.

2.4 Communication Challenges Encountered by the Teachers

The communication challenge facing teachers as caregivers of children who are deafblind in schools are many. According to the National Consortium on Deafblindness in the United States of America (2008), a concern was noted that most challenges facing teachers of learners with deafblindness is how to communicate meaningfully with the child. Children with deaf blindness always have very slow response times. Communication in this case, involves much more than just verbal language. This can be in the form of body language and gestures as well as signed and spoken words. For example, Teachers face challenges on how to identify what the child is paying attention to (NCDB, 2008). School opportunities are often not available for learners with deaf blindness. Most teachers in Uganda are trained in general Special Needs Education practices. However, a majority of the teachers may not have formal training in the area of deaf blind education. This could be a result of lack of a direct policy supporting complex disability like deafblindness. The training they receive is through non government organizations that may not be in line with the school based curriculum from the National Curriculum Development Centre (NCDC).

Teachers often lack knowledge on new approaches and intervention methods (Hathazi, 2005). Steer (2003) cites an example from Australia where serious

challenges exist. For example, lack of skilled teachers to handle children with deaf blindness. In the study carried out by Steer, among the findings were that; some teachers found themselves being posted to teach in schools where learners with deafblindness are not enrolled.

The researcher observes that the same situation is happening in Uganda. For example, by policy, primary and secondary school teachers and head teachers in Uganda are transferred periodically to teach in any areas of the country. Teachers face challenges during communication with children when they are moved from one school to another. This is if they have not been exposed to various communication techniques and deafblind learners. For example, meaningful communication goes along with touching cues and turn taking. Breaking of the known routines by deafblind learners creates a big challenge. Findings from the National Council for the learners with deaf blindness show a very slow response rate which requires patience among teachers.

Teachers may lack this skill. According to Dianton (2007), he observed that most significant barriers to development and achievement of learners with deafblindness are communication and socialization. For example when the child finds it difficult to socialize in a meaningful way, it puts limits to their educational opportunities.

Another study conducted in Botswana by Abosi (2007) where he relates poor communication problems to lack of effective teaching in Schools, negative attitudes among teachers and lack of student motivation. The above study reflects the state of affairs in Uganda. Being that the countries may have almost the same educational

characteristics in the area of education of learners with multi-sensory impairments suffers across the board. Sintef (2007) and Philips and Noumbissi (2007) observed that there was little data on multisensory disabilities on low income countries. They contend that the available data contained inaccuracies, lack comparability and of limited applicability. The implication is that lack of reliable data makes it more difficult to plan for the training of teachers who teach children with deaf blindness (United Nations Statistical Division, 2001). The education sector faces a challenge of bridging the gap between teachers to pupil ratio, to cater for such learners.

The 2013 Uganda Bureau of Statistics (UBOS) illustrates the enrolment of children with disabilities in Primary school for the period 2008-2010 (see table 1.1). It generalises learners with special needs. It does not specifically indicate the different categories of persons with disabilities. There is no specific mention of learners with deafblindness (UBOS, 2013). In addition, the Uganda Ministry of Education and sports, Science and Technology, has developed a draft policy document on Special Needs Education (SNE). The policy initiative was as a result of the numerous challenges teachers encountered in schools. The policy highlights special consideration for teachers working with learners with multisensory impairments. However, by the time of doing this research, the draft policy had not yet addressed the teachers concerns (Ministry of Education and Sports, Science and Technology, 2011).

The existing institutional linkages and collaborative efforts between the faculty of Special Needs Education and Rehabilitation of Kyambogo University, and Kenya Institute of Special Needs Education (KISE) also helped to harmonize a Special Needs Education teaching curriculum for teachers on distance learning mode. The

curriculum caters for other categories of disabilities, leaving out learners with deafblindness. There is no mention of how the curriculum adaptation to cater for children with deaf blindness. There is no mention any where on its implementation in the policy documents from the line ministries. This is one of the underlying causes of the challenges faced by the teachers, in terms of agreed curriculum adaptations and its implementation strategies.

A similar research was conducted by the Uganda National Curriculum Development Centre (UNCDC) in selected primary schools in the country. The findings indicated that apart from communication, teaching environment was one of the challenging factors identified among teachers of learners with sensory impairments in mainstream Schools (NCDC directory 2011). Findings from the same research pointed out that gaps still existed in the current primary School curriculum in teacher training colleges. The Uganda primary school curriculum has undergone several review processes with the aim of improving the teaching approaches for learners with disabilities in general (Ministry of Education and Sports, 2011). The Ministry of Education and Sports, Science and Technology, in collaboration with the Uganda National Curriculum Development Centre (UNCDC), have made significant efforts to derive mechanisms of improving learners' performance during ADLs. According to the Ministry of Education and Sports, Science and Technology, the development of the new teaching curriculum is expected to be completed by the year 2017 (Ministry of Education and Sports, Science and Technology, 2011).

However, the reports do not adequately address the teaching of communication techniques in the area of education of learners with deafblindness. The same findings

indicate that teachers experienced communication challenges when implementing the old School curricula due to limited human resources. In addition, the same reports indicate inadequate numbers of Special Needs Education tutors in teacher training colleges in the country. In addition, the same research findings highlighted periodic transfers of teachers from government-aided primary schools. This is a challenging in terms of existing gaps to harmonize communication techniques adapted by the teachers in schools.

According to a report by the Uganda Ministry of Education and Sports, Science and Technology task force on implementation of Universal Primary Education, the government declared that the issue of School fees is no more a significant factor (Ministry of Education Sports, Science and Technology 2007). However, there are other factors such as the large class sizes, lack of preparation in terms of trained teachers in the area of deafblindness, low teacher to pupil ratios, inadequate teaching and learning materials. This makes the teachers of learners with deafblindness to encounter many challenges. It has lead to negligence and School drop outs as evidenced in the statistics of learners with deafblindness. Most teachers have changed professions. Reason that they consider handling learners with multisensory impairments as a big challenge.

In Uganda, where much emphasis is put on passing final examinations, quite a significant number of learners with deafblindness may be disadvantaged, especially if there are inappropriate communication techniques in place among the teachers. A number of learners with deaf blindness may become multi-sensory impaired due to lack of appropriate communication channels during activities of daily living.

Learners are likely to become misfits at home during home-based transitional programs, when they eventually leave school.

The above observation is supported by Lopez (2007) who found out that lack of personal assistants such as interveners in deafblindness, trained in working with persons with deafblindness in regular Schools is lacking. In addition, Mathews (2007), further observed that deafblindness is a unique category of multisensory impairment, referring to the availability of one-on-one communication support. Mathew's assumption raises some important issues which puts the need to have adequate resources to manage such interactions in the developing countries like Uganda, into context.

Drescher (2005) argues that there is need to train tactile interpreters and communicators to offer teachers the necessary support to the teachers during ADLs in Schools. This observation has been proven in selected Schools of the study from eastern and central Uganda. For example Sign language interpreters in Uganda are only employed by government to assist in government aided schools with less attention to private-owned Schools. Although my study was on government aided Schools, the government has therefore focused less on private Schools, where learners who are deaf with partial deafblindness have been enrolled across the country. The opportunities to train such support staff still remains a challenge due to either misallocation of resources and lack of political will (researcher's observations from local political radio talk shows in Uganda). Teachers still face challenges in orientation and mobility skills. Some learners with deafblindness may have additional disabilities which require these skills.

Some teachers lack access to mobility and orientation skills and motivating techniques to stimulate independent living. Access to facilities when the class calendar has ended is also a challenge. Findings from the Uganda Ministry of Education and Sports, Science and Technology (2007), points out that attending to individual learning needs during Individual Education Plans (IEP) in Schools, is still not being addressed due to high pupil to teacher ratios (Ministry of Education and Sports, Science and Technology, 2010). This happening often causes teachers to reconsider their communication techniques, in relation to the learners' abilities, to understand concepts and for them to be understood. Learners with congenital deafblindness face communication challenges with their partners' right from the moment of birth up to later stages. This observation is associated to inherent difficulties brought by multisensory impairment that can affect achieving any coordination of actions among learners (Pease, 2000). The author emphasizes that there is no single communication technique that can be adopted and used to meet the learning needs of learners who are deafblind, in mainstream primary schools.

Pease (2000), further explains that, purposefulness is an important element if dyadic and triadic communication techniques have to take place between deafblind learners and their partners. He further notes that dyadic and triadic communication approaches use features such as temporal and similarity relationships. For example, a child may take the mother's hand as a sign of dyadic partnership to request for a mother to continue feeding him or her. The above example gives an understanding of how learners communicate their needs and emotions to their partners. Bloom and Lahey (1997) theorized that the vital roles teachers play in supporting learners with deafblindness will be successful, only if they are familiar with the form and the use of

a desired communication technique during ADLs. The two authors believe that challenges created by the heterogeneity of the persons who are deafblind, requires teachers to be flexible in their teaching approaches. Approaches should be broad-based with knowledge of technological and augmentative communication systems put in place. These can range from body language/movement, vocalization, objects of reference, natural gestures, signs, written words for those learners with residual vision loss) and the use of Braille.

According to the International Development Education Agency (IDEA) in the United States of America, deafblindness is a dual sensory impairment which is viewed as the concomitant hearing and visual impairments. The combination of which, causes challenges in terms of communication, cognitive development and other education problems to persons with deafblindness.

This means that the individual cannot be accommodated in programs solely for individuals who are deaf or blind (IDEA, 2004). This assertion is in agreement with Alsop and Blaha (2000) when they asserted that;

> *"People rely upon information about the world around them, in order to learn, function, and interact with others. Vision and hearing are the major senses through which this information is accessed. Individuals, who have vision and hearing loss or deafblindness, are unable to access this essential information in a clear and consistent way. Deafblindness is a disability of access – access to visual and auditory information." (*Alsop and Blaha, 2000; pg58).

Bloom and Lahey (1997) further emphasize the need to share and understand the forms which serve as communicative functions and how they are being ordered and merged to convey the intended meaning. Bloom and colleague maintain that two or more parties involved in communication must share a common topic, its intentions and the focus of attention that relate to each other's expressions. They add that sharing any of the above areas cannot be assumed, but must be achieved. This observation is in relation to the study objective one, which emphasizes on the effects of the teachers' use of communication techniques for achievement of the desired life skills during activities of daily living.

The above occurrence is due to the assumptions that children with deafblindness are in isolation from people and things around them (Marianne, 2008). Learners regarded as deafblind use multi-linguistic forms of communication techniques depending on the environment in which they learn and live. Teachers of such learners are advised to build communication techniques and a social relationship bond that is required for direct teaching opportunities. However, gaps may still exist among teachers in primary school educational systems, where learners with various levels of multi-sensory disability exist (Marianne, 2008).

In addition, a study by the Uganda National Assessment of Progress in Education (UNAPE) found out that; the performance of teachers of learners with disabilities in selected Schools in the country is still challenging (NAPE, 2010). This particular study by UNAPE, had targeted over 900 primary school teachers from the five regions. Study findings concluded that the teachers' performance in the areas of literacy and numeracy skills still remains a gap to be filled (NAPE, 2010). The same

findings showed remarkable slow progress indicators in terms of low teacher achievement levels among in the areas of literacy and numeracy instruction (NAPE, 2011). Amaral (2003) further observes that children with deafblindness do not necessary have to use speech so often or other language forms. They rely on movements, smiles, and manipulation of objects. This is also known as objects of reference. The teachers in the learners' environments may therefore find it difficult to discover the meanings of these means of communication. As a result, teachers find it difficult to discover the meanings of these means of communication. The teachers can end up not giving appropriate feedback as required by the learners during ADLs. Available literatures reviewed indicate that there are global trends to assist children with deafblindness to lead better lives. However, further research on communication needs of these children, how they learn, how regular schools can meet their needs, is still required. Amaral (2003) further states that an initiative to do research in this area is less undertaken partly because the people's perceptions are that, children with deaf blindness cannot be taught nor develop.

In addition to challenges in communication, there is a prevalence of negative attitude towards persons with deafblindness. Kersten (2006) observed that parents and educational professional neglect the learners whereas they also need the same support, inclusion and achieve their potentials the desired way. Afufu (2004) further gives an example of negative attitudes towards persons with deaf blindness in some Ghana communities. He pointed out that such persons were regarded as unproductive in life. Lieberman and Houston Wilson (1999) conducted a study on including children with deaf blindness to participate in physical education in the state of New York City. They carried out a survey that included 170 physical education teachers. The study

cited the lack of knowledge about deafblindness among the teachers. This observation resulted to poor preparation and hindered learners with deafblindness being excluded in physical education activities.

The lack of knowledge and preparation for proper adaptations, low awareness of appropriate programming ideas, relating to modification, were some of the indicators of challenges experienced by the teachers (Lieberman and Mac Vicar, 2003). The study also analyzed recreational barriers which some learners with deafblindness faced. This study is related to that study by Lieberman and Stuart (2002).

Another challenge faced by the teachers is fear, over protection and limited expectations from children with deafblindness (Lieberman and Stuart, 2002). The study implied that, although the focus was on adults, it could also be a yard stick to study children with deafblindness of all ages. This is because the survey approach used could still be perceived on previous experiences of negative attitudes was already discussed in the above chapter. The only observation in Lieberman and Stuart's argument could be on how to contextualize it to suit ADL. In addition, teacher's face challenge of parental protection of their children, lack of opportunities, and lack of confidence on their children as a barrier to successfully involving them in inclusive physical education (Lieberman and Houston Wilson, 1999). They note that over protection puts restrictive boundaries on the children's physical, emotional and social development. They further add that; lack of opportunity for those experiencing loss of hearing and vision, often results in late intervention with appropriate resources and adaptive equipment.

This very aspect is supported by MacInnes (1999). MacInnes lists several problems that the learners with deafblindness face, with regard to other additional disabilities. These include decreased ability to communicate with others. This leads them to the situation of isolation. The consequence of such isolation causes social-emotional problems, which in most cases are difficult to interpret by the teachers during ADLs. Such challenges are believed to hinder effective communication and achievement during ADLs. According to Mac Vicar (2003), play and recreation are primarily related to the disability itself.

Lieberman and Houston Wilson (1999) carried out a study on physical education provision to learners with deaf blindness in United States of America. The authors observed that; teachers face administrative barriers in their work within a fixed curriculum in school. They identified that time, lack of appropriate equipment, and covered medical excuses were among the challenges teachers faced. Lieberman and his colleague, noted time for scheduling physical education activities into the school calendar for children with deaf blindness was a challenge in addition to attitudinal barriers. However, this assessment fits into the context of the Uganda curriculum, where the time duration for physical activities is talked of as being exercised, despite the limited teacher to pupil ratios discussed earlier. Most teachers find it challenging to cater for interests for all learners. They considered it time wasting. Reason is that there is a high enrolment rate of learners of School going age, under the Uganda government policy of Universal Primary Education (UPE). Learners with deaf blindness often fall victims. The low teacher to pupil ratio in primary Schools in Uganda is testimony to this (MoESST, 2010). There was no other study supporting not finding extra time as a legitimate barrier.

A similar study by Petroff (2001), on a total of 102 deaf blind students between the ages of 18 to 24 who finished school 18 months prior to the assessment date concur with the above observations. Petroff study identified an alarming practice with transition planning. The study identified that out of 95 students, 40% did not have a written transition plan, and only 23% were engaged in transition planning for more than two years. For Petroff study, that is an indication that educational practices with respect to students with deaf blindness were questionable. This implies that if such a high number of students did not have a written transition plan, the concern then is that a similar number of students might not have had physical education included in their individualized education plan. This is important in ascertaining the achievement levels of learners with deaf blindness during ADLs and acts as a guide for adjustments. Such a conclusion would support the results from Lieberman and Houston – Wilson above. Such findings imply that there is an institutional gap in terms of social acceptance of the support needed for children with deafblindness in their social spheres of influence.

Not least among them is the challenge of including the child in the flow of family and community communication life. Since such a child does not necessarily respond to care in the ways expected, parents are challenged in their efforts to include her or him due to communication gaps. The mother or father of an infant who can see is usually rewarded with smiles and lively eye contact from the child. The parent of a child who is deafblind must look for more subtle rewards: small hand or body movements, for instance, may be the child's way of expressing pleasure or connection. Parents may also need to change their perceptions regarding typical developmental milestones. They can learn, as many have, to rejoice as fully in the ability of their child who is

deafblind to sign a new word, or to feed her, or to return a greeting as they do over another child's success. Parents, then, may need to shift expectations and perceptions in significant ways. If this is not properly done at home, the same is transferred to the teaching and learning process in the school system, in the most communicable way possible.

Parents also do the natural grieving that accompanies the birth of a child who is disabled. Teachers and caregivers must also make these perceptual shifts. Parents' groups and resources for teachers can provide much-needed support for those who live and work with children and adults who are deafblind. Such supports will help foster the mutually rewarding inclusion of children who are deafblind into their families and communities using a multidisciplinary approach mentioned earlier. The other challenge teachers' face is developing Individualized Education Plans (IEPs) for each child. Education for a child or youth with Deafblindness needs to be highly individualized; The limited channels available for learning necessitate organizing a program for each child that will address the child's unique ways of learning and his or her own interests. Assessment is crucial at every step of the way. Sensory deficits can easily mislead even experienced teachers into underestimating (or occasionally overestimating) intelligence and constructing inappropriate programs.

According to Helen Keller, she said that;

"Blindness separates a person from things, but Deafness separates him from people."

This potential isolation is one important reason why it is necessary to engage the services of persons familiar with the combination of both blindness and Deafness

when planning an educational program for a child who is deafblind. Doing so will help a child or youth with these disabilities receive an education that maximizes her or his potential for learning and for meaningful contact within her or his environment. Helen Keller emphasized that the earlier these services can be obtained the better for the child. Assessment is one of the areas that most teachers face challenges. They may lack or have limited skills in doing the assessment to device appropriate communication techniques depending on the level of the impairment.

2.5 Summary

Studies reviewed in chapter two are indicative of many gaps related to the phenomenon of study. There is a close relationship between communication strategies used by the teachers, and their quality of teaching activities of daily living in School. However, understanding the communication strategies is often the norm than the exception in regular schools in Uganda. The literature reviewed is indicative of the fact that there has been small scale training of teachers in the area of communication with learners with deafblindness and the challenges are evident in the current national primary school curriculum. For example, there was evidence of inadequate knowledge and skills exhibited by the teachers in teaching learners due to limited communication techniques in place. This left a negative impact on the competences of not only the teachers but also among learners. This is necessary for the learners to cope up with activities of daily living when learners eventually leave school life. Many studies of a similar nature have not been carried out in Uganda alone, but the literature reveals a global perspective.

In Uganda, the education of learners with deafblindness is currently a new initiative hence little research has been done in this area. The literature in chapter two has provided an overview of the various communication techniques commonly used by teachers and deafblind learners during activities of daily living in schools. Local and global contexts in terms of communication techniques identified also differ. By describing communication techniques, gaps still exist in the use of communication techniques in different localized settings during ADLs in schools. Section 2.1 has highlighted the various communication techniques used by teachers together with learners with deafblindness. Further research is still wanting.

Section 2.5 has given challenges encountered by the teachers during their social interaction and communication with learners during ADLs. The methodology chosen in reviewing literature helped the researcher identify the underlying challenges from various literature sources. The study highlighted many schemas such as the aspects of communication, support needed for teachers to broaden their senses when considering how a child communicates. Interventions necessary for improvement are given. The theory of language and communication, and the theory of social interaction helped to explain gaps identified. Holistic communication profiles express findings about the child's communication development, including closely related social and cognitive milestones. This record may be useful for home to school collaboration as the learners' transitions from one grade to another or from school to adult living. Holistic communication profiles identified can support multidisciplinary teams to manage the complexity of communication interventions during ADLs. The methodology used in the study is explained in chapter three. Some of the challenges that hinder teachers of learners with deafblindness from achieving their full potential during ADLs could be

eliminated. The literature reviewed indicates that there are still gaps from the documentation seen on communication aspects used in the teaching and learning processes in the selected schools studied. The effect of lack of appropriate communication techniques therefore affects the operation of other frame factors in the schools. The frame factors include; the teachers, learners, and the peers. For example, if there is low self esteem in the learners, the teachers may not enjoy teaching. The parents may be confused on what kind of support learners need at home due to imbalances in the communication learners' use from school.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the research methods that were employed in the achievement of the research objectives. It covers the research design and its choice, variables, location of the study, target population, sampling techniques and sampling size, research instruments, data collection techniques and data analysis. Research instruments were piloted to determine their validity and reliability. Finally, ethical considerations were taken into account during the study.

3.2 Research Design

The study used a descriptive survey design. The design was preferred because it permits the description and explanation of a phenomenon under investigation through semi structured interviews. It helps the researcher understand the daily life and attachments that people give to their lives and lives of those who are viewed differently in their communities (Gall, 2003). The real life context of teachers and learners with deafblindness was given attention, with regard to the effects of the teachers' use of communication techniques for achievement of daily living activities. This included prevocational skills development by learners with deafblindness. The design was preferred because it demonstrated to the researcher in-depth understanding of opinions and observable behaviors from a small number of people who were representative of a large number of teachers'. The choice of a survey design gave the research participants' good reasons to present their perspectives in their natural settings, using wide ranging enquiries (Yin, 2003). The study design enabled the researcher arrive at an explanation of the phenomenon through cases from schools of

study, while involving a variety of data collection methods (Sarantakos, 1998). The design was chosen because the data collection procedures with the teachers and the learners were interactive in nature. The design was also emergent and flexible in nature and provided a better understanding of the variables studied.

3.2.1 Variables

Variables are the key ideas that researchers seek to collect information in order to address the purpose of their studies (Creswell, 2005). Mugenda and Mugenda (2003) describe different classifications of variables such as dependent, independent, intervening confounding and antecedent. This study considered the dependent and independent variables. According to Amin (2005), independent variables are variables that influence or affect the dependent variables in a study. They further help explain the variations in the study. They are considered to be the ones which are influenced by the manipulations and on whom the effect is felt.

3.2.2 Independent Variables

The independent variables for the study included the effect of the teachers' use of communication techniques during ADLs. This included knowledge and skills-based areas required of the teachers in terms of their communication skills during indoor and outdoor activities of daily living. Some of the components embedded in the teachers' communication techniques include; personal identity with the learners, teacher-relationship, self esteem and concept development in a more communicative manner. Others are orientation and mobility skills, environmental and training materials that teachers use with learners in more communicative ways preferred during ADLs.

3.2.3 Dependent Variables

In this study, the dependent variable was student's communication development, their participation and achievements during activities of daily living. The factors embedded here include; concept development and information processing and permanence, self esteem and participation, learners achievement during activities of daily living.

3.3 Study Location

The study was carried out in two government-aided primary Schools in Uganda, from the selected schools using an agreed criterion to identify the schools. This study was conducted in two districts from eastern and mid-western regions. The report adopted the code names of the two schools and districts of study as school **A** and school **B,** district **1** and **2,** for easy data analysis.

School **A** was situated in Iganga district in eastern region. The school was a mixed boarding primary school. It had three sections; the section for the hearing, section for the deaf and a unit for learners with deafblindness. School **A** is located about 91 kilometers from researcher's place of work. The school was founded in 1967 by the Church Missionary Society (CMS). The section for learners with deafblindness was established in 1993.

Iganga district forms a major part of Busoga region. It is found midway between the source of River Nile, South western Kenya border, and north of Lake Victoria (appendix 10). The area is largely inhabited by the Basoga tribal group. They are engaged in peasant agriculture, small scale trade and in the civil service under the

district local government administrative structures. The researcher preferred district 1 because of the prevalence of children with deafblindness compared to any other district in the region (SENSE-Uganda news letter, unpublished records). By the time of carrying out the research, the School had a total enrolment of 400 learners including learners who were deaf, hearing children and learners with deafblindness. By the time of ding this research, there were only 30 deaf learners and 03 learners with deafblindness enrolled in the school. All the children were borders and came from different districts in the country.

School **A** had only four (04) members of academic teaching staff who were directly supporting learners with deafblindness. The rest of the teachers taught learners who were deaf and hearing. There were three female teachers and only one male teacher assigned to support the learners with deafblindness. In addition, the Schools received material and financial support from the Ministry of Education and Sports, in form of subvention grant for the development of infrastructure. This catered for the needs of learners with deafblindness and to enhance teachers' remuneration. It also received additional financial support from local and international Non Government Organizations and donor agencies. The agencies operated rehabilitation activities in the districts. The units for the deafblind also received additional support from SENSE International-Uganda, and from charity organizations called *Little Jesus*. The parents provided scholastic materials to the learners.

According to a study done by Nsubuga (2007), district 1 has 9.6% of the currently known number of children with deafblindness and has the highest rate compared to other districts in the country. By the time of doing this research, SENSE

international-Uganda development program, was working in collaboration with the Parents association of Children with Deafblindness (PACDB). They had identified 10 children with deafblindness in Iganga district alone.

The second School was School **B,** which was located in Masaka district. The school is located approximately 100 kilometers from Kyambogo University. The School was established in 2009.

It has substantively appointed teaching staff. Not all the staff was trained in the area of deafblindness. However, teachers were still supported by Community Based Rehabilitation workers (CBR) from the district, with some knowledge on how to teach learners with deafblindness. The school had a section of the deaf and deafblind learners. It had a total of twenty (20) learners with deafblindness. The two schools were chosen because they were pioneer schools in the area of educating children with deafblindness in Uganda. They also had an experienced teaching staff in the area of deafblind education.

In school **A,** the researcher observed a difference in the way of teaching of learners with deafblindness. The learners did not study in the same classrooms with the hearing and learners with deafness. Learners with deafblindness were taught separately in an adjacent unit specific for learners with who were deafblind. Although the learners shared the same compound with the regular classes, the aspect of inclusiveness was therefore not understood by the School administration. The researcher observed that a few learners with partial hearing and partial blindness were integrated into the classes of deaf learners. This kind of approach explained, helped

the researcher to identify the different ways that deaf peers, deafblind learners and their teachers used to communicate during indoor and outdoor ADLs (see appendices, video clips 1 – 6).

The schools served as model centers for Educational Assessment and Resource Services programs (EARS) in the area of Special Needs Education and education of children with deafblindness. The advantage reported was that both Schools were located near paramedical schools and referral hospitals that served as referral centers for the schools. The centers had an Ear, Nose and Throat (ENT) departments for referrals. One hospital, Mulago national referral hospital located in the capital of Kampala, serves School **A** and Masaka regional referral hospital is located in Masaka district, serves school **B**.

3.4 Target Population

The target population comprised of 60 participants. They included all substantively appointed and qualified grade three Special Needs Education in-service teachers. The target was mainly for learners with deafblindness, and their head teachers. The deputy head teachers were not part of the research participants because their responsibilities were quite similar in nature. The researcher had to identify teachers to take part in the study using the agreed format explained in section 3.5.1. Supplementary information was, however, obtained from the head teachers. Additional information was obtained from 10 parents of learners with deafblindness. In addition, information was obtained through informal observations with the learners and their hearing and deaf peers during ADLs. This was to aid video analysis in the end (see video clip 1-5). This was to safeguard internal validity. Teachers were

therefore identified basing on their training and their expertise in the area of Special Needs Education background, specifically in the area of deafblindness.

3.5 Rationale for Selecting the Study Sample

3.5.1 Iinformation about Schools of the Study

The data regarding the participants is presented descriptively. Variables such as the age, gender and the teacher's professional levels are presented. Two Schools were mixed boarding primary schools with an enrolment of learners with hearing impairment; hearing and deafblind were involved in the study.

The Schools and districts

School **B** in Masaka district found in mid-western Uganda was founded in 2009 with an enrolment of only six children with deafblindness while school **A** in Iganga district found in eastern Uganda was founded in 1993 with 20 learners with congenital and acquired deafblindness but the numbers kept scaling down. The levels of the teachers training ranged from untrained teachers to being trained teachers in the area of deafblindness. Eight teachers involved in the study were purposively sampled. Three teachers were sampled from School **A** in Iganga district. Five teachers were sampled from School **B** in Masaka district. The eight teachers involved in the study were requested to give their educational levels and the institutions they had attended. This information was relevant to the researcher because it gave an impression of the teachers' levels of preparedness and levels of professionalism in the area of teaching learners with deafblindness. Regional data analysis regarding learners with disabilities from the government line Ministry of Education and Sports, Science and Technology, indicated that learners with special needs in pre-primary schools from the eastern region had the largest share of SNE pupils with 26.1% while the south western region

has the lowest share of only 5.6%. It further indicated that the proportion of the special needs pupils to the pupil enrolment was 2%, however; the western region had the highest proportion of children with disabilities of 2.4% of the pupil enrolment in the region, while the central region recorded the lowest percentage of 1.5% as indicated in table 3.1 above. However, overall, this statistics does not highlight individual cases in terms of disability, for example, learners with deafblindness. That makes it quite challenging to know the underlying aspects in terms of teacher to pupil ratios.

3.5.2 Distribution of Special Needs Learners per region

Table 3.1: Distribution of SNE pupils per region

Region	Male	Female	Total	Enrolment	%district	Proportion
Central	584	443	1,027	70,798	23.6%	1.5%
East	645	491	1,136	42,366	26.1%	2.7%
N.East	177	134	311	14,902	7.2%	2.1%
North	494	383	877	42,812	20.2%	2.0%
S. West	151	93	244	12,396	5.6%	2.0%
West	429	323	752	31,523	17.3%	2.4%
National	2,480	1,867	4,347	214,797	100.0%	2.0%

(Source: Uganda Education Statistics Abstract, 2011).

3.6 Sampling Techniques and Sample size

This section represents the sampling technique used by the researcher in determining the sample on which the study was based.

3.6.1 Ssampling Ttechniques

In this study, purposive was used. Purposive sampling is supported by Tongco (2007) who postulates that the approach helps to interface with a selection of participants

who have versed experience in the area of study. The researcher's interest was to find out the teachers' use of communication techniques vis-a-vis children's achievement potentials during ADLs, while using the different communication techniques identified. Participants in the study have been labeled as T1, T2, T3 to mean teachers and DBC1, DBC2, etc mean the learners with deafblindness studied during ADLs.

Choice of Districts, Regions and Schools

Purposive sampling was preferred because the regions and Schools identified had enrolled learners with deafblindness. The districts were Iganga district located in eastern region and Masaka district located in mid-western region. The choice of the two districts and the regions was based on the following criterion;

- Accessibility of the schools.
- Availability of trained teachers in the area of Special Needs and deafblind Education
- Availability of learners with congenital and adventitious deafblindness
- Reflection of urban and peri-urban settings. The settings were of interest on the outcomes of this study. The schools practiced indoor and outdoor ADLs that included academic and prevocational skills training to learners as their main focus. Purposive sampling technique was used to focus on the two districts, the two regions and the two schools for the study due to their accessibility. Purposive sampling technique was used based on the proximity and nearness to the researcher's place of work and the distance that did not require many kilometers to travel.

Choice of Teachers and Head teachers

Purposive sampling technique was used to identify teachers who taught learners with deafblindness. Teachers, who were Deaf, were involved because of the nature of their

social interaction and the support they offered to learners in the school. The head teachers were requested to provide a list of classroom teachers who handled learners with deafblindness to form volunteer informants. The deaf teachers provided the researcher with additional information regarding communication techniques used by hearing teachers and the learners during ADLs. The two head teachers were purposively sampled because they were the overall administrators of the schools and the children and teachers were directly under their supervision, in order to enhance study findings. A list of teachers trained in special education was used to identify teachers to participate in the study, in line with the agreed guideline of identifying participants' with congenital and adventitious deafblindness using the class list. They were asked to do so because the researcher's interest was focusing on communication techniques used during ADL.

Learners with Deafblindness

Simple random sampling was used to sample learners with deafblindness from their classes for observations during ADLs. Although the school administration had classified the classes of learners with deafblindness as those with low and high achievers, both adventitious and congenital learners with deafblindness were involved. Assessment records that indicated the learners progress reports were used in identifying the learners (see appendices 10). Learners with deafblindness in the two schools were regarded as low and high achievers because of their ages, abilities, and multisensory impairments.

Gender balance was followed in identifying learners. This approach helped the researcher get a comparative understanding of the different communication techniques teachers used during ADLs.

3.6.2 Sample size

The sample size comprised of 30 teachers (05 teachers from School **B** and 03 teachers from School **A**). Ten (10) children with deafblindness from both schools were closely observed. Six (6) children from School **B** and four (04) children from School **A**, and twelve (10) parents were identified. The researcher considered only two (02) head teachers (01 from School **B** and 01from School **A**) as shown in table 3.1

Table 3.2: Sample size

Participants	**School Name**	**Study Population**	**Selected Sample**
Teachers	**B**	28	05
	A	09	03
Learners with Deafblindness	**B**	06	06
	A	04	04
Parents	**B**	06	06
	A	06	06
Head Teachers	**B**	02	01
	A	02	01
TOTAL		**63**	**30**

Teachers from school **A** in Iganga district were chosen because the researcher was informed by the head teacher that the teachers were among the pioneer teachers to handle children with deafblindness. Factors like nearness to the referral centers and the work of nongovernmental organizations like SENSE international-Uganda program and others influenced my choice of the schools and districts for the study.

3.7 Research Instruments

The research instruments used in the study included a set of semi structured interview guides for the teachers. Observations guide were used to obtain additional

information from the head teachers, and learners with deafblindness. For example data collection instruments guided in obtaining teachers perceptions on motivational attributes, expressive and receptive communication during dyadic and triadic interactions.

3.7.1 Interview Schedules

Interviews were one of the methods used during this study by way of audio tape recordings participants' responses involving indoor and outdoor ADLs. Before embarking on the exercise, interview schedule was constructed to cover all aspects that were deemed necessary for the investigation and to ascertain that all aspect expected from the participants concerning the problem of study were covered. A set of self-made interview questions used were helpful to obtain demographic information about the teachers. Interviews helped to corroborate data from observed indoor and outdoor ADLs that is explained in section 3.6.2. Interviews were useful to understand personal information such as the head teacher's qualifications, and their interest in enrolling learners with deafblindness among others.

In addition, care was taken to cater for participant's need by way of starting the interview, first building positive rapport, trust and confidence with all research participants. Considering the uniqueness of the disability deafblindness, its associated challenges that the teachers encountered during their work, the researcher safeguarded this by fronting less sensitive questions first while sensitive questions were included at the end of each interview sessions. For example, sensitive interview questions like how the head teachers' related with other teaching staff, the head teachers' attitudes towards teachers supporting learners with deafblindness were also captured. Some

pedagogical information like communication and teaching methods and resources needed, relationship and support from parents and other stakeholders was ascertained through interviews. The information obtained helped the researcher know influence of communication techniques used by the teachers on learners achievements during ADLs.

3.7.2 Observation Schedules

Observations helped the researcher to identify the communication techniques used and challenges encountered by the learners, and what kind of support learners with deafblindness received from their peers in the school during ADLs. Probing questions were added to allow room to generate detailed questioning. This approach helped to minimize any such occurrence and safeguarded participants from withdrawing from the research process.

3.8 Conducting the Pilot Study

According to Bryman (2008), a pilot study assists the researcher to gain experience on how to use research tools while ensuring their compliance and researcher confidence and applicability. The pilot study was conducted at Ntinda School for the Deaf, section of the Deafblind. The school for the pilot study was located in the central business district of Kampala, Nakawa division. This school was chosen because it was nearer to the researcher's work place for easy access to participants in case of any challenges that would arise. Considering the limited numbers of learners with deafblindness, the pilot study was done with two (02) teachers and two (02) learners with deafblindness.

The pilot study helped the researcher check whether the items included in the instruments actually fitted into the phenomena of study. The errors identified in the instruments were corrected. The purpose of the pilot study was to enable the researcher make necessary adjustments on the research instruments. For example, it helped the researcher to do rehearsals on the instruments before final administration in the field. The aim was to secure content validity and reliability of the instruments before the actual study commenced. The focus was on activities of daily living that include; academic and pre-vocational activities; eating, washing, compound cleaning, socializing, fetching water, numeracy and literacy (reading and writing), bathing, hand work (art and crafts). It was after the pilot study that the researcher realized that individual discussions with the parents of learners with deafblindness were important in gathering additional information. Pilot study findings helped to make necessary adjustments on the instruments ready to be used and to have an idea of the kind of results to expect in the main study. The School of the pilot study was not involved in the study.

3.8.1 Validity

In order to increase the validity of the findings of this research, a number of measures had to be put in place. First, I did it through a triangulation approach by involving different methods for data collection. Interviews, formal and informal observations and focus group discussions methods were used. Validity shows how accurately the data collected in the study represents the variables (Mugenda and Mugenda, 2003). Orodho (2005) describes validity as the degree to which empirical measure or several measures of a concept, accurately measure the concept. Validity was helpful in establishing instrument credibility, accuracy and relevance with a breadth of

knowledge regarding the study domain (Bryman; 2008; Kaahwa, 2008). In this study the instruments were validated from the results of the pilot study done in Ntinda School in Kampala, Nakawa division.

Face validity helped to evaluate instrument appearance and content by the research supervisors from Kenyatta University and a doctoral research fellow from the University of Kwazulu Natal in South Africa, a staff member of Kyambogo University. Members from the faculty of Special Needs Studies and rehabilitation at Kyambogo University, Uganda supported in fine tuning the instrument. Two research assistants who had been trained earlier helped to safeguard validity. They were subjected to the research tools and procedures of doing sample interviews with the teachers. The peers included fellow doctoral colleagues at the department of Special Needs Studies at Kyambogo University in Uganda and colleagues from University of Kwazulu Natal in South Africa.

The peer's advice guided me on how to develop appropriate research instruments. This was done during a research work shop organized for all research fellows at the faculty of Special Needs at Kyambogo University. They studied the instruments individually and provided necessary guidance. The peers helped me to adjust and to simplify the language used in the instruments. All the instruments were amended as per the peers, research assistants and participants responses. For example, they assisted the researcher to include the duration the teachers had worked in the schools, their ages and the levels of education in the area of deafblindness. They also looked at the layout of the instruments.

External validity was established by studying a variety of theories linked to the study domain. The main theories that guided the study were theories of language and communication (Bloom and Lahey, 1997) and the theory of social interaction, (Dijk and Makova, 2006). The use of a multiple-method approach, through; observations, interviews and focus group discussions was helpful in justifying validity. Pro-longed cross-sectional field data collection was done by being present to verify data through probing during pilot study.

3.8.2 Reliability

According to Orodho (2005), reliability of the measurements concerns the ability of a particular measuring procedure to produce similar results over a number of repeated trials. Reliability is closely linked to validity because a valid instrument is always reliable (Amin, 2005). Reliability was secured through a probing approach on specific areas that were included on the instruments. The aim was to minimize suspect accounts by the participants.

In this case, administration of the same instrument(s) more than twice to the same group of sampled subjects was done. The following steps were followed:

i. Selection of an appropriate sample group of subjects.
ii. Administration of the interviews, focus group discussions and observation guide.
iii. All the initial conditions were kept constant, and the interview was administered to the same participants.

Reliability of the instruments was further secured by peer scrutiny. I consistently consulted my supervisors from Kenyatta University and fellow doctoral colleagues at the department of Special Needs Education in Kyambogo University Uganda for

proper guidance and verification of the instruments. Reliability was further secured through a pilot study with the assistance of research assistants. Constant briefing of the research assistant in the area of deafblindness was done to help identify loopholes that helped in interpretation before and during data collection. Their knowledge in the area of deafblindness and the local languages used in the research sites (Luganda and Lusoga) was of much help during data collection. Participants were informed about their rights to either withdraw or continue to participate in the research. Participants were informed not to disclose such personal reasons to the researcher. Fortunately none of the participants withdrew from the research process.

3.9 Data Collection Techniques

The data were directly collected from the teachers and head teachers, with the assistance of two research assistants. Research assistants were first briefed on video coverage. They supported in doing video coverage and taking notes during planned activities of daily living in the schools. The study had several instruments for effective results. It was not easy to observe the learners in all ADLs and administer the interviews and focus group discussions at the same time. Based on this, I considered necessary to train the two research assistants to support during video coverage. Data collection involved interviewing individual teachers of learners with deafblindness and their head teachers. Before each set of interview was done, the researcher made exploratory field visits to each of the schools and to the districts of study. District education offices and the head teachers were visited. I talked to the district education officers and the head teachers before introducing them to the research assistants. The researcher did this by self introduction and later explaining to them the nature of the research and its purpose to all participants.

The field visits helped the researcher understand and plan for the school daily routine activities. The researcher was able to plan for individual interviews with all the participants in the schools on agreed dates. Interviews were done for all participants in their respective schools in private places away from detractors. Daily observations of ADLs by video recording during each practical activity were carried out. The learners with deafblindness could not be interviewed because of the nature of their multisensory impairment. The learners could not understand tactile language. However, their communication with the teachers during ADLs, were being observed using a digital video camera.

Video recordings were later interpreted and analyzed using coded themes. Research assistants helped during video recording and taking still pictures during the process. One of the assistants took additional observable field notes while the other helped to do the video recordings interchangeably with me during interviews. The researcher realized that dealing with deafblind learners' to identify communication techniques needed to be done through video coverage to avoid loss of valuable data during data analysis. Interview data from the teachers were also obtained by using a digitalized tape recorder. Participants were requested to listen to their voices to confirm their responses and were thanked after the end of each interview.

Flexibility when interviewing participants was considered throughout the data collection process. Since the researcher knew how to use Sign language and tactile communication, it was helpful in understanding issues using wide ranging enquiry techniques. The teachers who were deaf from Iganga were not involved in my study.

However, they were useful in providing additional information regarding teacher's communication abilities, attitudes and the learner's achievements in the school.

3.10 Data Analysis

Data from the interviews was analyzed descriptively with a view of addressing the research questions linked to the components of the research topic. Data analysis involved corroborating a chain of evidence from the recorded video observations and identification of construct themes. This helped the researcher describe teachers' use of communication techniques in schools during ADLs. The aspects include; evidence of symmetric dialogue, (i.e. checking if the teachers and learners with deafblindness on reciprocity, turn-taking, partner co-regulation, proximity and distance, sharing and paying attention as a measure to ascertain learners' mastery of the different communication techniques used by the teachers). Interpreting emotions and joint attention during dyadic and triadic communication processes was done. Other coded aspects include the teachers' use of formal communication modes like; tactile signing, Sign Language, use of objects of reference, adaptive signs, bodily perceived gestures, modular gestures, touch cues, formal written language and deictic gestures. These helped the researcher to derive meaning depending on contexts teachers used during ADLs.

Constant comparative analysis on communication techniques helped to analyze emerging issues from interview data obtained from the participants. This helped to build on additional information obtained from the parents. A summary of individual teachers' video observations and interview data was descriptively put into context by linking to the topic and the objectives of study. Additional data was obtained from

the teachers' teaching profiles in relation to their work with learners with deafblindness. Final results comprised of thematic descriptions, incorporating data from video recordings and relevant interview quotations in order to maintain the focus of the study. After the teachers were interviewed, I did focus group discussions with the teachers and parents and shared their experiences in terms of communication techniques used and the challenges they encountered. The discussions allowed participants to elaborate on some areas that were not clear or omitted on the interview schedule and observations. Data from the focus group discussions was later coded and analyzed descriptively.

The other stage that formed data analysis was through axial coding in which the categories were formed and related to each other using their existing properties and dimensions. For example, the interactions between the participants in this case during ADLs were noted. The consequences of those interactions were categorized and analyzed descriptively to help address the research objectives. For example, analysis of the various interactions and behavioral changes were noted among the teachers and the learners during dyadic and triadic communications. The teachers' reactions were noted during ADLs to see if there were any influences arising from teacher-pupil ratios. This helped to improve the understanding of the effect of communication techniques observed, specific to the work of teachers during ADLs. The interest here was to ascertain whether there was indeed any meaningful communication taking place and to know if learners had actually conceptualized meaning from the teachers' communication, during segmented ADLs.

3.11 Logistical, Human Relations and Ethical Considerations

They form the most important processes and procedures that must be fulfilled in order to arrive at a successful research (Yin, 2003; Mugenda and Mugenda, 2013). Before embarking on the research, the key issues that had to be addressed include selecting participants, obtaining informed consent, ensuring privacy and confidentiality, and providing safeguards, among others. A significant attempt was made to meet all the required procedures for this research. In Uganda, conducting a research of this nature, it is mandatory that any research involving humans had to be permitted by National Council of Science and Technology (NCST) and from an affiliated ethics committee. The researcher sought for a permission letter from Mildmay Ethics and Research Committee (MUREC), and permission letter from the director National Council for Science and Technology and office of the president in Uganda to allow me do the research was obtained (appendices 1, 2, and 3). This was the first step in tackling the issue of ethics. A letter of introduction from Kenyatta University permitting the researcher to undertake research was presented to the research and publications committee of Kyambogo University requesting for funding which was granted. Piloting and validating the research instruments ready for data collection were done.

The researcher later carried out exploratory visits to the districts and schools of study to get acquainted to the research sites and identified two research assistants and the research participants. Rapport with all the participants was done by making them aware that the researcher was only interested in looking at the teachers' communication techniques and communication skills development with the learners. Permission from the Districts Education Officers and the head teachers was got by clearly explaining to them about the aim of my research. I discussed with the research

participants on the modalities to be followed during the entire period of the research. Informed consent from all research participants was therefore obtained. The researcher treated all participants with respect, dignity and assured them that all information obtained will be kept with confidentiality. The aim here was to maintain good relationship with participants and the school administration as a good precedence for future researchers wishing to do similar research in the area of deafblindness. The School administrators were informed that sharing the research findings upon completion of the study will be done. The two research assistants were familiar with the local languages used during field visits, and the researcher's fears of doing research in the two regions with two different languages including Lusoga and Luganda was therefore minimized.

3.12 Summary

In this chapter, a summary of field work processes of the study are given. The chapter mainly presents the procedures which were followed in preparing the instruments for the study, that is, the interview schedule and observation schedule. Participants' population and samples, and explanation of the sampling techniques followed are provided. A description of the pilot study and the procedures that were used to ascertain validity and reliability of the instruments is also given. As observed, the interview schedules could have had some weaknesses. However, the weakness, was however, checked by having rich qualitative data from triangulated methods. The next chapter will present data and discussion of findings.

CHAPTER FOUR

PRESENTATION OF DATA AND DISCUSSION OF FINDINGS

4.0 Introduction

In this chapter, the data and results of the study are presented, interpreted and analyzed. The purpose of this study was to identify the effects of the teachers' use of communication techniques for achievement of life skills by learners with deafblindness during Activities of Daily Living in primary schools in Uganda. This chapter focuses on presentation of data, interpretation and discussion of the research findings. The presentations are organized into sections. For purposes of data description of the sample, the first section includes the description of demographic variables of the research participants. The second section, presents findings based on the objectives of the study.

4.1 Section One: Demographic data

Sample description was analyzed and presented using figures, alongside demographic variables such as age, gender and teachers professional levels. There are two sub-sections in this section, with the first section presenting the demographic information on the learners, while the second section deals with the teachers' information.

4.1.1 Demographic Characteristics of Learners

The demographic characteristics of the learners were analyzed along variables such as gender, age and the number of years the learners had spent at school learning ADLs.

Table 4.1 Gender Distribution of Learners with Deafblindness per School

SCHOOL	GENDER	TOTALS
School **A**	Male Female	03 04
School **B**	Male Female	01 05 **06**

Iganga district had the lowest number of female learners with deafblindness. While in Masaka district had the highest number of female learners with deafblindness. The ratio of boys with deafblindness in a School in Iganga was higher than those in school in Masaka. The ages of the learners ranged between five (05) and sixteen (16) years. The researcher established that all the boys and girls in both schools were boarders.

A School in Iganga had the highest enrolment totaling to 400 learners, including 30 deaf and four (04) deafblind learners. A school in Masaka had an enrolment of 280 learners who were deaf and six (06) learners who were deafblind. The head teachers from the two schools informed the researcher that a decision to have only boarders in the school was to offer protection to learners with deafblindness and the deaf learners due to the distances the schools were located. One teacher said that;

"One deafblind child who used to be a day scholar was recently knocked down by a speeding motorcycle and ended up losing even his residual sight completely and the parents feared to bring him back to school".

The interpretation of the comment in school **A** in Iganga meant that there was a need to offer protection to girls and boys who were approaching adolescence stage, from danger. It was also interesting to find that all the schools were working towards

inclusion where deaf learners shared one learning classroom block with the hearing learners. However, the researcher observed a seating arrangement was seen as improper and did not portray the element of proper inclusion; learners with hearing impairment sat behind hearing children, and were taught by different teachers, as a positive gesture towards social interaction.

The above observation, concurred with a study carried out by Jones (2006), who pointed out that inclusive education fosters friendship and offers access to the school curriculum and helps children to learn from each other. Jones study further noted that; placing children who are deaf together with children with deafblindness to study in the confines of the same classroom required that there should be teachers' commitment, close monitoring and attention from the school administration. Although Jone's observation on structured and collaborative demands from the teachers is necessary, findings of this study revealed that including children with deafblindness to interact and learn together with their peers on the same compound, helps children with deafblindness to earn respect and acceptance from their peers (video clips 1 from school **B** and 2 during leisure time and the eating activity in the dining hall in school **A**). The informal interaction with the school matrons and the other learners who were deaf and hearing children during meal times in the dining hall revealed that hearing and deaf learners were welcoming and friendly to children with deafblindness during those ADLs in the schools.

My study finding support Jones (2006), who pointed out that those children without disabilities would gain understanding of the challenges and the opportunities children with deafblindness encounter, when they share and communicate together to promote

social relationships with learners with multisensory impairments. This helps to remove stigma and discrimination during ADL (video clips 1- 3 on leisure dialogue activity with deaf and deafblind children).

The study findings are still in agreement with Jones (2006) who conducted a similar study and noted that the approach will create children's self-independence, and fosters communication. This observation further supports the theory of social interaction which guided the present study Markova (2008). It is against this background that the two schools of study that had enrolled children with and without disabilities were also identified; the children in both schools include the deaf, hearing children and children with deafblindness.

4.2.1 Demographic Characteristics of Teachers

One pioneer teacher from School **A,** who had been retired was recalled back to support in teaching learners with deafblindness because of the experience in the area of deafblindness. Findings indicated that one teacher from School **B** had specialized training in Orientation and mobility skills and he supported in teaching learners prevocational skills.The same teacher was also co-opted from the mainstream class of children with deafness, to assist teach learners with deafblindness in the area of orientation and mobility. This information was helpful to the researcher to understand the teachers' levels of education and fluency levels in development and use of communication techniques with learners with deafblindness during ADLs. For example, in School **A**, only one teacher who supported teaching learners with deafblindness had no formal training in the area of Special Needs Education but was working in the section of deaf and children with deafblindness for a long time.

Three teachers from school **B** were taking a diploma course in Special Needs Education offered by Kyambogo University. The researcher found out that the two deaf assistants had no formal training as grade three teachers but were cop-opted from the section of deaf children to support in teaching sign language for partially deafblind learners. One of the deaf teachers had specialized in prevocational skills training to the deaf and deafblind learners in School **B**. The teachers' working experiences ranged between four to twenty five years. By the time of data collection, a total of twenty eight (28) teachers from the two Schools had enrolled for a certificate course in deafblindness being offered by Kyambogo University.

4.2 Communication Techniques Used by the Teachers (Objective one)

Presented in this section is the information regarding communication techniques used by the teachers during activities of daily living with learners. Through observations there was need to find out some of the different communication techniques used such as Uganda sign language, gestures, tactile, Lorm sign, use of Braille, use of real objects and objects of reference on calendar boxes and Tadoma techniques were being used by the teachers. It was evident from the researcher's observations that the levels of children's mastery and the use of sign language variations had an impact on the flow of communication during ADLs. The researcher noted that learners relied on imitation, and the use of real objects and objects of reference to communicate with the teachers during daily routine activities in the schools.

Comprehension and object permanency in the learners was consistently observed during indoor ADLs like in literacy and numeracy skills development.

Although the teachers were knowledgeable on the use of sign language, other communication techniques such as the Lome, tactile and Tadoma signing techniques, hand tracking, these techniques were not practically applied by during segmented activities of daily living in the schools. Implying that, communication was a major challenge to teachers.

4.2.1 Use of Uganda Sign Language and Tactile Communication Techniques

The teachers were further observed and asked to explain the various communication techniques that they used to instruct activities of daily living. The researcher went ahead and analyzed the use of Uganda Sign Language and tactile communication techniques during ADLs. Although the teachers were able to tell how tactile communication technique was being used, however, the researcher noted that the teachers' responses were based to their theoretical understanding of techniques they learnt from workshops and conferences they had attended. The findings indicated that the use of Uganda Sign language, use of real objects and objects of reference were the common techniques used. There was less use of tactile communication. In addition, teachers mentioned use of calendar boxes as one of the common techniques used alongside tactile communication.

Most communicative behaviors occurred through the use of formal Sign Language, for further explanations. The signs used were part of children's repetitive routine during ADLs (e.g. signs for *eat, tea, bread, beans, posho, water, fine etc.*) during eating as an ADL, were formal signs. Repetitive routines were seen among learners communicating in terms of sequenced activities. Some learners did not have signs for the things they needed until the teachers assisted had to assist them. This finding

concurs with the studies done by Van Dijk (For example, analysis of video clips with DBC1, 2, 5, and 6 showed children pointing directly at different picture cards. For example analysis of the video clip on the use of sign language to identify picture clues of the red parrot birds with the child and the teacher, showed the interpretation of the child's gesture as abstract in nature. The other teacher was observed prompting to ask one child that; "is that color red?" The child's feedback was not clear. The interpretation was that the teachers who taught picture cards had limited knowledge in Sign Language; instead teachers used gesture to prompt the children to give the required sign. This was an opportunity for the boy in school **A** to practice the signs for 'bird'. Pictorial objects of reference were reinforced visually by the introduction of a sign name of a bird.

The researcher's interpretation was that deictic gestures appeared important in introducing new signs into the learners' limited vocabulary. This was evident when the learners were able to sign the different color charts presented during a literacy lesson in School **A** (see video clips on literacy with T1s and DBC 1, appendix 12). The researcher found out that most learners with deafblindness were brought to school when they had already outgrown their levels of linguistic proficiency and lacked knowledge on dyadic and triadic communication. They found it challenging to use sign language. Dyadic communication is a shared communication partnership between the learner and the adult during a one-on-one communication dialogue. It correlates with the first and second person – i.e. "YOU" and "I". It involves sharing emotions and mutual attention (Stuart, 2002). Triadic is a shared communication partnership where a third party forms part of the communication dialogue. It involves joint attention i.e. – "You", "I" and "IT" (Stuart, 2002). Following the coding system

the researcher had adopted before like; use of Uganda Sign Language, adaptive signs/gestures, bodily perceived gestures, iconic/mimicking, gestures and modular gestures, and basic tactile signing. Touch cues were observed with limited tactile communication.

These findings support the theory of language and communication advanced by Bloom and Lahey (1997). The theory talks of the *use*, *content* and *context* of language acquisition. In most cases the use of the various techniques was not derived by the teachers. For example, during the researcher's observations during meal times in the dining hall in school **A and B**, learners in school **B** were unaware that one sauce (cooked beans) was missing from the plate and no one was able to explain what had gone wrong. Although other learners kept moving around in the dining hall, waiting for meals to be served, the teachers in the dining hall ought to have explained to the learners with deafblindness what was taking place. The researcher found out that there was a missing link in sign language and tactile communication because the teacher had no idea of how to tell the learners using sign language or tactile and the teacher's lacked appropriate tactile and signing skills. The level of fluency in Uganda Sign Language among deaf learners was relatively high but abstract in nature for children with deafblindness to understand.

The same findings further agree with Hart (2006) on social interaction when he noted that learners with deafblindness communicate with other people about their daily life through imitation. The same view is held by Markova (2008) in his theory of social interaction, when he noted that a human being is a social being who needs social interaction, the same way children with deafblindness also required. This implied that

the teachers too required the same competence. He explains that children with congenital deafblindness can achieve this through imitation and the use of real objects and objects of reference. Considering the time the teachers had taken teaching in the schools, and their levels of training. The researcher found out that the teachers were still relying on the old versions of Uganda Sign Language communication techniques which the children found so challenging to comprehend.

The sign language teachers used to instruct ADLs, where of questionable quality during some ADLs. As a result there was evidence of disjointed expressive and receptive communication observed between the teachers and the learners like at meal time, leisure time on the compound with other deaf and hearing peers. The researcher went ahead to analyze the teacher's ability to portray the relevance and application of the elements that constitute Sign Language, the grammatical rules involved during triadic and dyadic communication with learner who had partial sight. However, there were contradictions when some learners were not able to count and mould figures during Literacy and numeracy skills lessons without specific understanding what that meant (DBC1 with T3 in school **A**). Teachers needed to explain to the learners the required skill to be displayed. However, this was not effectively done due to lack of competency in sign language.

Although there were some inconsistencies along the way, some level of communication achievement were seen in most learners. It was observed that some learners exhibited some levels of slowness in conceptualizing the skills taught using the various communication techniques. The researcher's interpretation of this was that some learners had multiple challenges due to their ages and inadequate

communication skills learnt. For example, during the art and crafts lessons, the researcher noted that some learners needed to develop practical motor skills. This observation helped the researcher to identify whether there was any meaning, or mismatch and any achievements registered in terms of communication development by the teachers during ADL. The focus was to identify receptive and expressive communication skills in a more communicative manner preferred by the learners and their teachers. There were some inconsistencies noted. For example, during the observations with T1 in literacy skills training lessons with DBC1 and DBC2 the interval of turn taking and turn giving, coactive signing had gaps in terms of constructive meaning to the child. The DBC1 mostly used local gestures and imitation. The interpretation of this was that T1 and DBC1 who had residual vision had no knowledge of formal sign language. Object permanency in this case was questionable when the children failed to give positive feedback. The interpretation of this was that the teachers' understanding of the Sign Language and its grammatical rules involved during dialogue had a mismatch.

Observations with T2 during a literacy class with DBC1 in school **A** were also indicative of a repetitive process of imitation. This was observed when some of the children were giving uncoordinated feedback by using the local gestures (their actions followed by copying messages from the source person – teachers without necessarily understanding the meaning). Imitation was evident during communication situations of directed dialogue between the teacher and learners. Although the element of social interaction would be seen, it meant that the principles embedded in the theory of language and communication that guided this study was not well applied.

In addition, the theory of language reviewed, emphases the use of a language, in this case Sign Language to give meaning of content in a well structured manner. Observations with T2, T3, and T4 & T5 in the schools during indoor numeracy and literacy skills training confirmed the analysis. The researcher noted that the children's limited knowledge in tactile communication was to a certain extent a result of teachers' limited knowledge in basic tactile and Sign Language communication techniques. The signs used by the teachers were not matching with the understanding of the children due to variations in receptive and expressive dialogues with the children. One teacher from school **A** in Iganga district indicated to me that most learners had multisensory impairments and were challenged in using the communication techniques they had earlier taught them.

Teachers reported that the government policy on teacher recruitment meant that they were to teach all classes in the school and some of them taught in the section for the deaf. The same teachers teaching learners with congenital deafblindness and this meant that learners with congenital deafblindness could not pick abstract signs used by the teachers who were teaching in classes of learners with deafness. For example DBC1 in school **B** aged 16 years had limited knowledge in tactile and Sign Language communication. The boy was observed unable to cope with the flow of information from the teachers.

The interpretation of this gap could be due to limited exposure to basic Sign Language and tactile communication by the teachers. This finding concurs to the study by Van Dijk (2013). Van Dijk study explained that assessment and support of a child's

presymbolic forms of communication is very important for understanding what the person is communicating about.

Additional information from the head teachers indicated that the existing Ministry of Education and Sports policy on periodic transfer of teachers from one school to another and from one region to another as one of the hindrances to consistency in the teachers' use of communication techniques with learners.

The head teachers reported that when new teachers are transferred to the school, they faced challenges to start from where the old teachers stopped. Participants reported that there was need for the Ministry of Education and Sports to change the policy on transferring teachers to schools where there were no learners with multisensory impairment. For example, participants suggested that teachers with a training background in Special Needs Education should not be transferred to schools where there are no children with disabilities. Teachers suggested that those with specialized skills training in deafblindness be transferred to schools where learners with deafblindness are enrolled. The researcher further observed that there was limited receptive communication from the congenital deafblind children. For example, the researcher observed one learner from School **A** who could not give any feedback using sign language, during his interaction with his peers on the compound during games and sports time. Instead he kept imitating the conversations from deaf learners by way of repeating to use uncoordinated gestures.

Through observation, it was revealed that the boy did not understand formal sign language used by deaf learners. Children with deafness were not taught in the same

classes with the deaf or hearing children. They could only meet during meal time and when there was an activity of fetching water from the school bore hole and during cleaning exercise on the compound. About ten video clips were extracted from the research data for analysis of the communicative techniques used by the learners and their teachers using the pre-corded themes during ADLs. The other video clips were taken during children's interactions with their peers and support staff on the compound during leisure activities. The influence of the other communication techniques is discussed in the following sections.

4.2.2. Use of Calendar Boxes

Learners with congenital deafblindness were taught using calendar boxes to help the teachers in structuring daily activities. Although the method was preferred by most teachers, it was evident that the learning outcomes were not easily followed by the learners with congenital deafblindness (see appendix 11).

4.2.3. Other Techniques That Influenced Learners Communication

The findings revealed that although most teachers mentioned other communication techniques used in teaching learners with deafblindness, such as Lorm sign tactile and Tadoma signing techniques, the application was not observed any where during ADLs. This finding concurs with Patel (2011) who noted that learners with deafblindness, who have some residual hearing and use basic sign language, may still require a tactile interpreter to help them communicate. Imitation and bodily perceived local gestures were evidently being used by the teachers and learners during deictic gestures to refer to something they wanted. Imitation was one of the useful communication techniques observed in this study (see video clip 1 and 2 on leisure

from the borehole and compound cleaning exercise). Findings of this study corroborate with the research findings by Clark (2000), who carried out a study on social interaction among learners in an inclusive educational setting. Clark (2000) noted that it is only through such bonding with other children that will allow the adult to become part of his/her world as they interact freely in a positive and meaningful manner. Teachers revealed that some learners were exhibiting some communication styles which needed a teacher to be critical, for example learners can yawn, cry or frown implying probably a lack of interest of what is going on between them and the partner.

4.2.4 Teachers' Responses on the Preferred Communication Techniques

Communication plays a vital role in educating learners with deafblindness during activities of daily living in schools. For purposes of this study, the principal questionnaire for the teachers was designed to achieve the objective of finding out the preferred communication techniques teachers used to teach ADLs to learners with deafblindness. Teachers were asked to state the communication strategies that had worked well for them to help children who were regarded as poor communicators.

Responses on the Use of Objects of Reference

The researcher identified that there were learners with congenital and adventitious deafblindness who required various communication techniques in order to participate, communicate their needs, likes, and emotions during ADLs. The learners did not acquire communication instantly. Teachers reported that they needed to teach and re-teach learners in order for them to understand various communication techniques that could enable them participate in the school activities without any hindrances. The researcher noted that the levels of the teachers' knowledge and communication skills

observed were determinant on when and how the teachers would apply them during ADLs. The researcher considered this an important aspect during indoor and outdoor observations of individual teachers at different activities. The researcher found out that, although the teachers had worked closely with multidisciplinary teams; that included community development workers and the parents in the schools, teachers were still not well conversant with sign language. However, the challenge was application of teaching methodology because they were only trained as grade three teachers and not in the area of deafblindness.

Teachers were able to use objects of reference and calendar boxes; they had limited knowledge in tactile signing to facilitate communication with congenital deafblind learners. For example, the researcher's observation during meal times was revealed that other children communicating with learners with deafblindness in sign language. However, some information was not clearly understood by learners with deafblindness as was observed when the children were finding it challenging to give feedback. In case they would give feedback their signs were vaguely perceived by the deaf children in the group (video clips conversations taken under the tree and the veranda).

4.3 Responses on Learners with Limited Communication Abilities

On the question of teachers assessment of the learners with limited communication abilities, the researcher went ahead to find out how the teachers assessed their children's communication abilities by using objects of reference. Majority of the teachers reported that they preferred the use of objects of reference alongside use of the calendar boxes. For example, a case in School **A** in Iganga district, teachers set up

calendar boxes to teach ADL. The teachers concern was that some learners were challenged in understanding the signs attached to the objects of reference for a day's planned activity. The teachers' interpretations were attributed to some interference from additional impairments that some children were experiencing. This therefore needed proper assessment to have been done. Some teachers reported that some learners were generally viewed as being slow learners.

The findings support Miles (2004), who observed that educational strategies can use objects of reference for creating dialogue with deafblind individuals. He found out that conversations can be established and maintained by representations in book form or in storyboards and experiences can be communicated and relived by the deafblind individual by using the objects of references as cues.

Most children were observed imitating the signs as the teacher and the peers signed and consequently used them. Some children were seen taking long intervals to memorize the next planned activity of the day. In some instances use of objects, children and the teachers' had limited knowledge in Sign Language skills, assessing the children's performance was evidently challenging.

For example, a boy from school **1** and two from School **B** had stayed in the school for six and three years but did not yet understand how to communicate using basic Sign Language to supplement objects of reference used. Object permanency was therefore compromised.

The researcher went ahead to ask the teachers to state the characteristics of their learners with deafblindness and how that affected their work with the aim of drawing challenges related to communication and interaction.

Janssen and Rodbroe (2007) suggest that children with congenital and acquired deafblindness need partners who are creative and be able to offer variations and a new theme of communication which is so close to the deafblind individual's own limited repertoire that he or she experiences. However, this was contrary to observation of the teachers who had limited knowledge in tactile and sign language. Their suggestion to create alternative ways to communicate interest and simplicity by using real objects and objects of reference, were important for meaningful communication to take place. The researcher confirmed this during formal interviews and observations with the teachers on their levels of sign language competency, training and qualifications in the area of deafblindness.

The teachers' responses concurred with studies by Pease (2000) on learners with congenital deafblindness. Pease found out that such scenarios may be caused by inherent difficulties brought by multisensory impairments that can affect achieving any coordination of actions among learners. Pease further observed that learners with deafblindness do not have specific communication techniques that can be adopted in order to meet their learning needs in mainstream schools. Their ways of expressing their needs are so diverse. In the same vein, theorists on language and communication like Bloom and Lahey (1997) pointed out that teachers play a vital role when teaching learners, only if they are familiar with the form and the use of a desired

communication technique and the severity of the impairment in question in the learner.

The dominance of Sign Language communication further concurred with the study carried out by Marianne (2008). Marianne noted that gaps may still exist among teachers in primary schools where learners with various disabilities, share the same compound with learners with and without disabilities. Their communication modes differ. This example is in line with the nature of the two schools of the present study because the schools had enrolled deaf, hearing and deafblind learners some of whom were multisensory impaired. The researcher agrees with the above authors in terms of proper assessment of the learner's communication potentials and their exposure to the various communication modes and the teachers' ability to use them. These observations will help to modify the environment to fit the child's needs, not the other way round.

The researcher further went ahead to find out the ways teachers use to support learners identified as those with poor communication abilities. Through complementary interviews with the teachers from both schools it was reported that the teachers used teach and re-teach approach by repeatedly explaining to the learners using real objects and objects of reference. One teacher from School **A** revealed that the children with deafblindness needed time to understand things and had the value to master and live independent lives. When he said,

"Now for instance this friend of yours Peter (not real names), people were nearly giving up that what can this Peter to learn but later that young lady teacher Deborah (not real names) she insisted that you don't just give up and if you were in church you

may say you take faith otherwise if you have negative attitude the child will go and young people learn according to what you believe in"

This kind of lamentations meant that teachers had positive attitude towards their work since they indicated a need to give more attention and patience to learners in all activities they did. The findings revealed that most children were slow learners despite their differences in communication techniques.

4.4 Teacher to Pupil Ratio (Objective two)

The researcher went ahead to find out the number of learners with deafblindness that each teacher was teaching in the school. The figures helped the researcher to ascertain the work load, and teacher's effectiveness in communication in terms of the influence of the teacher - pupil ratio. The teacher-pupil ratio by average ranged from 1:3 to 1-6. That information was analyzed descriptively according to the responses given by teachers. Observations and video analysis on the teachers' interactions with the learners during ADL revealed that the teacher-pupil ratio was still small and not appropriate to instruct all segmented activities of daily living to all learners. The findings reveal that although the teacher to pupil ratios in both Schools was between 1:3 and 1:6, the workload corresponding to the numbers of learners with deafblindness was still much for each individual teacher to manage. Teachers further reported that some learners had multisensory impairments, implying that teachers experienced challenges in teaching such learners on one-to-one basis during planned activities of daily living. Findings reveal that there were only three teachers formally trained in the area of deafblindness.

Teachers reported that much of their work was hindered by the learners' additional problems and other external factors outside the confinement of the school. Lack of proper training among teachers in the area of deafblindness was therefore identified as one of the hindrances to effective class control and instruction. For example, some learners were hyperactive/multisensory impaired and needed specialized attention and restraint. Learners used different communication techniques and the teachers had limited communication knowledge to apply. Study findings concur with the study by Afufu (2004) when he observed that the teacher - pupil interactions during ADLs can never be forced when a learner is not simulated to do so.

The teachers used team teaching as one of the alternative intervention teaching strategies to minimize the challenge of limited teachers-pupil ratio by observing and asking teachers on how the approach works with them in different scenarios during ADL. Consultations of this nature can make teachers gain confidence in their work. This finding agrees with the observations from SENSE (2013) that persons working as a multidisciplinary team with learners with deafblindness should meet regularly to compare individual progress. The researcher observed that the levels of teachers' qualifications and training varied ranging from certificate to degree. This could have had an effect on applying different communication techniques when attending to each learner. Teachers assigned to teach learners with deafblindness also taught learners who were deaf. Teachers' revealed that this had an effect on time allocation to attend to learners with congenital deafblindness during planned ADL.

Another observation was that little content was covered due to the time wasted on one learner. For example, learners with severe vision and hearing needed more time to be

instructed ADL and yet the time allocation on the school time table was not adequate. Teachers were overloaded with lots of tasks to accomplish. The teachers reported that such challenges were met by engaging learners in group task allocation for learners with mild hearing and blindness.

4.5 Communication and Other Challenges Encountered by the Teachers (Objective three)

- **Teacher's perceptions on the challenges encountered**

Teachers were asked to state the challenges they encountered during their work with the learners, they explained this basing on the various communication techniques mentioned earlier. Their answers were diverse. Teachers further reported that the information they had learnt about deafblindness from the short trainings and workshops provided by SENSE international Uganda development program, Swedish Handicap International Agency (SHIA), Sight Savers and Perkins institute of the blind from the United States of America was not adequate to help them become fluent communicators in sign language, Braille and tactile. It lacked relevance on the Uganda context. The interpretation was that teachers lacked adaptation skills to the Ugandan context since they lacked proper sign language and tactile communication skills with the learners that were compliant with the Ugandan school system.

On the question of the children's pace of understanding the teachers' communication techniques using Uganda sign language and tactile signing, the teachers reported that they were finding some challenges.

Teachers reported that most learners had multisensory impairments and this meant that it was challenging for the teachers to interpret what the learners meant when giving them feedback. Such utterances were indicative of a hindrance to the children's levels of cognitive understanding of the sign language being used. The learners with congenital deafblindness were seen having very little knowledge in tactile communication technique generally. Although real objects and objects of reference were being used to teach learners, they were abstract in nature and needed further explanations using Sign Language, which most teachers were not well conversant.

The researcher noted that learners come from different family and social, cultural environments which meant that to cope with their levels of sign language was challenging. The findings of my study corroborates with the findings by Stuart (2002) in the deaf communities in England due to social relationships. For example he noted that the signs used in Scotland differed from the sign language used in southern England. A similar study was done in Uganda by Ndeezi (2004) when he found out that there are differences and similarities in between Ugandan and other languages like British sign language which is being used in schools in Uganda.

Teachers further revealed that they found it challenging to respond to the communication needs of learners since most of the learners had varied mood swings for an activity. For example a teacher from school **B** said that learners may be attracted to certain things and to detach such learners from such attraction to focus on an activity would be challenging, when the teacher said that;

"When you were observing that boy Peter (not real names) in class looking at the picture of the parrot birds you said that oh that boy I think might be interested in brighter colors"

The findings reveal that there were no reference books in the area of communication and deafblindness, implying that teachers lacked adequate formal training in the area of deafblindness. Teachers reported that learners often forgot communication techniques they had learnt at school whenever they reported back to school from school term holidays.

The schools of study were boarding schools. The teachers faced a challenge of teaching and re-teaching learners who sometimes dropped out of school and later reported back in the next school term. The teachers faced challenges whenever the parents withdrew their learners from school due to non fees payment. Some parents were not willing to support their learners in terms of providing scholastic materials. This challenge concurs with a similar study that highlighted negative attitude from among parents in Ghana by Afufu (2004).

One way the teachers allayed fears of some challenges was through the use of team teaching by observing what a colleague could be doing with another child and using a child-to-child approach so as to understand the behaviors of learners with deafblindness during their interactions. Teachers further mentioned the challenge of managing learners who have reached adolescence stage. The burden was often reflected on their work, an implication that most children usually forget communication techniques learnt from school whenever they reported back to school.

Teachers were forced to re-teach the routine instructions during ADLs all over again. Another challenge identified was that of having many ADLs to manage for each individual child. Attending to individual differences of each learner was therefore challenging. Teachers also revealed a challenge of time wasting and less content coverage.

In this study such challenges were reported because the researcher discovered that most of the learners had joined school when they had passed the school going age which is always the case in Uganda education system. The learners' with deafblindness had challenges to cope with other learners. Tactile interpreters for the deafblind were not recruited in schools to support teachers because such interveners were not necessarily trained as grade three primary school teachers. This finding concurs with the observation made by SENSE (2013). SENSE international sited that most teachers of learners with deafblindness who have less knowledge in terms of communication, face lots of challenges instructing learners to the best of their knowledge.

The teachers reported that children with deafblindness had learnt some signs used at home but were not able to practice the same Sign Language used at school whenever they got back to their homes during school holidays. The teachers found it challenging to make learners unlearn the local gestures from home and to adapt to the formal signs used at school. For example Sign Language communications techniques were observed during; the teaching of literacy and numeracy skills (see video clips on T1, T2 up to T10 in school **A**). Although some learners were doing well in hand work, art and crafts, the element of sign language and tactile signs was evidently

lacking throughout the activities which needed the teacher's guidance. Although the learners with deafness shared the same ADLs such as; cleaning the compound, fetching water from the bore hole (video clip 2 & 3-4), the levels of signing by learners who had partial sight and hearing could not match the level of signing of the other older deaf peers in the schools because the levels of onset of the impairments deferred.

For example, DBC1 from School **A** had partial sight and experienced challenges in communicating during a handcraft lesson. The learner observed, was unable to request for more materials to use from the teachers yet he could not initiate a request for support needed due to limited Sign Language communication skills. The local gestures used by the learner therefore were misinterpreted by the teacher. For example when learners were attempting to continue working on molding clay, the learner remained seated but kept turning and rocking on the chair. The learner's continuous gesture of rocking himself on the bench with a pensive mood on his face was interpreted as an indication of wanting help but could not be interpreted by the teacher during turn-taking and turn-giving. The teacher's attitude in this case can retard the learner's understanding and interest in communication (see video clips 1and 3 with T2). The researcher interpretation was that some children were facing challenges of turn-taking and turn-giving with the teachers, because the teachers also lacked knowledge of how to apply turn-taking and turn-giving skills during dyadic and triadic communication with congenital and adventitious learners with deafblindness because some of the learners were slow learners. Teachers revealed that they were able to share with the parents some of the challenges they faced, by way of writing individual child's report and explains communication challenges each

child faces whenever the parents come to pick their children when the schools close for a term holiday.

Teachers reported that some of the children had additional disabilities. Such learners were regarded as slow learners in terms of understanding sequenced ADLs. For example, teachers found it challenging to use tactile communication technique to some learners due to multisensory impairments. An example, teaching of toileting and personal hygiene especially to the girls during their menstrual cycles was reported challenging. Some learners were observed as being hyperactive. This was challenging for the teachers to interpret the gestures. For example, a gesture to mean going out for toileting was reportedly used by some learners repeatedly tapping on their hips. The finding concurs with the study done by Pease (2000), when he observed that there is an associated inherent difficulties brought by multisensory impairment that can affect achieving any coordination of actions among learners. The author emphasizes that there is no single communication technique that can be adopted and used in order to meet the learning needs of learners who are deafblind in mainstream primary schools.

In the video clips some learners with partial vision could point at objects or pictures but they did not have specific signs or ways to understand them when the teachers signed to them. Instead learners imitated the teacher's signs when giving feedback. For example, a boy with partial vision from School **A** pointed at the cut out parrot birds on a piece of paper but had no idea of the exact sign to use to tell the word '*bird or sign of a parrot bird'*. The implication here was that some learners lacked proficiency in sign language.

The same observations were recorded in the dining hall during meal times. Although the teacher's sign for *'meal time'* was clearly understood by the learner, however, when the teacher signed the word *'beans & posho'* and the sentence *'missing beans on the plate'*, there was no clear feedback from the children using sign language or any gestural expression to show meaning of the information given to the child. The staring gesture observed on the learner's face and a beaming smile and the sad facial expression showed by the teacher when signing the word *'beans'* and '*missing beans'* could not be well interpreted by the child. Teachers labeled such learners as simply slow learners. These observations are supported by Janssen and Robroe (2007) when they said that a teacher who creates experiences and scaffolds routines is the one with technical competence.

By scrutinizing the above observations, teachers could be partly to blame for the child's failure to identify the simple sign or alternate gesture for the boy since most of them did not have good backgrounds in Uganda sign language. It was most challenging for a congenital deafblind boy aged 16 to understand dyadic interaction. Some teachers had taught in the schools for over twenty years but had not yet attained fluency in Uganda sign language. The level of the teacher's training and mastery of sign language compromised the children's abilities to learn and master sign language and achieve well during ADLs. This explained the mismatch in the children's perception, receptive and expressive skills of the messages delivered during that particular ADL. This observation is supported by a study done by Clark (2000), when he stated that developing a warm, secure environment and trusting relationship between children who are deafblind and their teachers is the cornerstone of a good educational approach.

Negative attitudes and lack of knowledge on the various communication techniques, use of local gestures were evident. For example, teachers reported that it was common to see learners using local gestures they adapted from their homes, such adaptations like a sign for going to toilet by tapping their hips repeatedly, was observed by teachers from School **A** in Iganga when a teacher reported that;

"We always face challenges of consistency among learners because some of them easily forget the signs which we teach them at school, when they come back from holidays because this is a boarding school".

Most teachers were substantively registered by the Ministry of Education and Sports, Science and Technology were transferred to the schools without their will by policy. Teachers reported such hindrances were emanating from the district education leadership. This was a challenge to the teachers' professional development in teaching children with deafblindness. Such threats of teachers being deleted from the Ministry of Education and Sport's government payment system was reported by most teachers. This occurred whenever teachers left for further training. This was one of factors noted as contributing to low moral for teachers to access further training in the area of deafblindness. The task involved in their work with children of such a complex disability faces mixed feelings.

4.6 Methods used to Teach Numeracy and Literacy ADLs (Objective four)

Information from focus group discussions incorporated aspects identified from the study objectives 1, 2, 3 and 4. During focus group discussions, which the researcher also used a video recorder the teachers mentioned that the theoretical understanding of the techniques from text books confirmed that teachers were not fluent users of other

forms of communication techniques. Observations revealed that their application still remained a big challenge among teachers of learners with multisensory impairments in an environment of learners with mixed abilities. The researcher observed that although the teachers had a positive attitude towards their work with such learners, they still needed training in formal communication techniques like tactile communication. Moreover, communication techniques which the teachers lacked were viewed as very important aspect to enable them teach learners with multisensory impairments to perform well during ADL.

The teachers' views guided the discussion to reaffirm the known communication techniques teachers had exhibited in their classes and those that were challenging with the parents. Focus group discussions provided a good platform where participants openly shared their views and challenges. Participants noted that they relied on using local gestures and revealed that they had little knowledge in Sign Language and tactility. In addition, some teachers had little education in the area of deafblind communication generally; this meant that the teachers' interaction with the learners at school compromised parents' interaction with the learners at home during ADLs. The researcher observed that it was more challenging for the parents to interact with the learners who were congenitally deafblind during ADLs at home.

The Uganda education policy mandates learners in primary one to four to be taught using the local language; however, this was not applicable to the learners with deafblindness in the schools studied since some materials were not yet adapted to teachers teaching learners with deafblindness. This observation leaves a very big gap

in terms of communication technique to use in teaching the thematic curriculum. Teachers reported that such learners needed total communication.

The researcher noted that the use of local gestures was commonly used among teachers during ADLs. For example, T1 was instructing in a class during numeracy lesson faced difficulties in using Sign Language with DBC1 in School **A**. An indication that there were variations in the effectiveness on the variations of communication techniques used. In addition teachers from schools **A** and **B** reported that they had met challenges because some children were hyperactive and were slow learners. This meant that the children frequently forgot communication techniques learnt from school whenever they reunited with their parents during holidays.One teacher from School **A** gave his experience from a workshop he had attended in Tanzania, and said,

"There was a man in the workshop, I forget his names, but I could write my name on his palm like GRACE and he would say, oh where do you come from and when I write UG he could reply by saying in full that Uganda?"

The researcher observed that tactile communication technique was equally not well understood by the learners and the teachers themselves during some segmented ADLs. However, the kind of tactile communication techniques used by the teachers was a result of the short trainings they had received from nongovernmental and international organizations like Perkins from the USA, Swedish Handicap International Aid (SHIA), SENSE international and a project called Little Jesus supporting a unit for the deafblind in School **B**. From observations recorded, it was revealed that the project approach was not facilitating proper teaching of learners to

understand basic ADL. Some learners had taken more than six years without getting to know structured communication during ADLs. For example a case of one boy observed in school **A** with one learner who had stayed in the school for over five years without being fluent in Sign Language and tactile. This observation was confirmed when one teacher said;

*"you see like that boy Peter (not real names) whom you were interacting with yesterday, people were almost giving up with him but that young lady teacher Jane (not real names**)** kept on trying with him until he picked up"*

The interpretation was that learners were not at the same range of deafblindness because their communication abilities with the teachers varied. Teachers revealed that it was challenging for them to instruct learners with congenital deafblindness in this category. Those with acquired deafblindness; Teachers revealed that they found it easier to teach learners with partial and peripheral vision.

Teachers attributed the lack of proper communication techniques used, partly as a result of the variations in the learners educational backgrounds. In addition, teachers had variations in communication techniques used as a result of some learners coming from poor family backgrounds.

More emphasis needs to be put on the policy on teacher training in place to safeguard teachers who wished to go for further training in the area of deaf blindness. The researcher observed a case from one school **A** in district **1**, where some of the pioneer teaching staffs had left the school to other neighboring countries for better jobs and better pay. Focus group discussions revealed that some of the teachers have joined

civil service in most district as head teachers. Some left schools and joined working with non-governmental organizations where there was higher remuneration. Although most teachers reported positive attitudes from the school administration during focus group discussions, however some sections of the teachers reported negative attitudes from the school administration towards attending to children's upkeep in the school. This observation was noted during the interview session.

The focus group discussions, proved quite useful in gathering in-depth information concerning the various communication techniques used by the teachers and the parents. The focus group discussions further helped understand the various challenges encountered by the teachers during their work and how they tried to overcome them. The school head teachers were not present during the focus group discussions. As a result teachers felt were comfortable to express challenges they had faced. Issues raised and discussed the concern of unclear policy guidelines, inadequate training opportunities, and lack of reliable statistics on learners with deafblindness from the government Ministry of Education and Sports. Funding to the schools in form of subvention grant was reportedly mismanaged. The teachers reported that there was a negative attitude from the school administration towards supporting one of the units for children with deaf blindness. Lack of enough teaching and learning materials, were some of the common concerns reported.

Lamentations from one of the teachers like;

"...I try to make a budget but the head teacher keeps throwing or puts it aside, and just tells me that after all your deafblind children do not want to pay the money".

Another lamentation from a teacher like;

"…the current head teacher has a negative attitude towards the deafblind learners unlike the previous one who was so positive. The other head teacher could allow parents to bring their children to school despite having no money to pay…"

Another concern was;

"…the current head teacher was formally a classroom teacher in the school, she left and was brought back as a deputy, and then she was made a full head teacher to date"

These kinds of lamentations were indicative of bigger challenges teachers encountered with the school administrators. The researcher's interaction with the teachers during focus group discussions in terms of teacher relationship with head teachers revealed some challenging gaps. The analysis revealed some degree of negative attitude between the school administration in terms of support to learners with deafblindness and staff development.

The research findings indicated that the number of teaching staff teaching learners ho are deaf and learners with deafblindness in School **A** kept reducing was that there was lack of motivation from the school administration to retain them. Findings indicated that most teachers had changed from teacher to doing other occupations. For example, the teachers reported that in School **A** alone, teachers left the school to join alternate civil service in the district. Some teachers had left for better paying places in the neighboring countries like in Kenya, Tanzania and Sudan. The attrition rate was evidently high in School **A**. My informal interaction with the other teachers in the

same school revealed that some teachers who were supporting learners with deafblindness were transferred by the school administration to other schools due to rivalry and intrigue among teachers.

However, the reason why the numbers of teachers involved in the study was small is because the researcher needed only teachers with Special Needs Education background who directly taught learners with deafblindness. The rest of the teachers taught deaf and hearing learners and interacted less with the learners studied during ADLs. The teacher in school **B** in Masaka revealed that the initial number of children with deafblindness was 20 (15 girls and 5 boys) in 2009. However, the numbers kept dropping when teachers left the school and a section of the learners had reached transitional stages and were integrated into the community. Although the schools had deputy head teachers, the researcher involved only one head teacher from each school. The settings and their roles were similar.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

In the previous chapter, the collected data was analyzed, results presented, interpreted and discussed. In this chapter the summary of findings, conclusions of the study, recommendations and areas of further research are presented. The purpose of the study was to establish the effects of the teachers' use of communication techniques for achievement of daily living activities by learners with deafblindness in primary Schools in Iganga and Masaka districts, Uganda. The study sought to answer the following research questions: "What communication techniques do the teachers use to develop communication skills among learners with deafblindness during activities of daily living? How have the teacher to pupil ratios influenced the achievement of communication skills among learners with deafblindness in primary schools? What challenges are encountered by the teachers working with learners with deafblindness during activities of daily living in primary schools? What methods do the teachers use during literacy and numeracy skills development among learners with deafblindness?

5.1 Summary of the Findings

5.1.1 Summary of the Findings on the Communication Techniques used by the Teachers During ADLs

The summary of findings was based on the research questions that guided the study.

Research Question 1:

What communication techniques do teachers use to develop communication skills among learners with deafblindness during activities of daily living in School?

The aspect on communication techniques was analyzed from observations made using video recordings and individual interviews conducted with the teachers in the schools during ADLs. The findings indicated that; although the teachers' professional backgrounds in the area of Special Needs Education had gaps in terms of communication requirements, teachers were required to have an in-depth knowledge in the area of deafblindness. The researcher's observation revealed that the teachers did not have adequate knowledge and skills that should have covered aspects of communication as expected of them to support learners with deafblindness during ADLs. The researcher noted that teachers relied on the short refresher trainings they had received from local non-governmental organizations in the area of deafblindness. These trainings had impacted less on the teachers in terms of communication development. It had no proper linkage to any adaptations on the school curriculum in teacher training institutions, and in universities where teachers had been trained. Although the teachers had served in the schools for many years, ranging between 7 – 20 years, their potentials to develop communication skills were still wanting.

On the statement on which communication techniques were more appealing to the teachers to use during their instruction of ADLs to the learners, the researcher noted that use of real objects and objects of reference was the common techniques being used. Their applicability was, however, not impacting much for learners with multisensory impairments identified in the study. The teachers' willingness to support slow learners, who had stayed in the school for longer periods of time, to develop communication techniques using locally produced materials, revealed that the teachers had a positive attitude towards their work. The researcher found out that very limited studies in the area of deafblind education in Uganda had been

undertaken. Perhaps many researchers concentrated their work in the other categories of disabilities because indeed there was very limited literature obtained in the Ugandan context.

5.1.2 Summary of the Findings on the Teacher to Pupil Ratio

Research Question 2:

How has the teacher - pupil ratio influenced the achievement of communication skills among learners with deafblindness during ADLs in primary schools?

According to the findings of the study, an influence of teacher to pupil ratio on the work of teachers in both schools was evident; the researcher used figures from the teaching staff identified from both schools. The teacher to pupil ratio in this study is the number of teachers who support learners with deafblindness during ADLs, divided by the number of learners in that class. The researcher noted that there was an influence on the teacher-pupil ratio in terms of segmented activities of daily living.

The teachers' qualifications were equally a contributing evident to this mismatch. For example, out of the total number of 28 teachers in school **B**, only 4 teachers were confirmed teaching six learners with deafblindness. The teacher to pupil ratio was therefore not conforming to the desired outcomes during ADLs. The rest of the teachers were supporting learners who were deaf and hearing in different classes. The researcher further noted that some of the teachers who taught learners with deafblindness were allocated a work load to teach primary seven candidate classes who were being prepared to sit for the final national examinations. The interpretation was that teachers were not devoting much of their time on a one to one basis to support the learners with deafblindness as it should have been the case. There was

therefore divided attention among teachers. Teachers found it challenging to instruct a number of segmented ADLs to more than one learner with deafblindness at a time, since they had to attend to other classes of learners who were deaf and hearing in the school. The activities of daily living for learners with deafblindness needed one teacher per learner since it requires one-to-one attention involving various communication techniques identified in the earlier chapters.

5.1.3 Summary of Findings on the Challenges Encountered by the Teachers

Research question 3:

What challenges do the teachers encounter during their work with learners with deafblindness during activities of daily living in primary schools?

It is believed that teachers teach learners with deafblindness in schools just like the parents of such learners. The researcher found out through observation and interview of teachers that the challenges emanated from the teachers themselves, the learning environment and the learners with deafblindness. From the teachers' responses and the researcher's observations, learners took quite a longer time to understand what they were being taught for longer periods in the school, due to communication challenges and multisensory impairments associated with their disability. The researcher noted that teachers and the learners lacked knowledge in total/augmentative communication techniques to instruct ADLs. Lack of enough trained teachers in deafblindness, inadequate knowledge and skills in different communication techniques, inadequate learning materials, and poor motivation from the government line Ministry of Education and Sports, Science and Technology, were some of the challenge identified. Teachers reported that they lacked motivation from

stake holders, including parents as one of the reasons strongly noted to have demoralized their efforts in school.

The researcher went ahead to find out the influence of teacher to pupil ratio on the work of the teachers during ADLs. The common challenges identified were that teachers taught more than one child during ADLs. Most learners had multisensory impairments which was one of the hindrances identified. Another challenge teachers mentioned was the need for them to be appointed, confirmed and be given remuneration commensurate to their qualifications from the Uganda government Ministry of Public Service. According to them, this was not forth coming. Although the teachers had an education in the area of Special Needs and Inclusive Education; however, teachers still lacked specific training in the area of communication with learners with deafblindness. This affected their work with such learners. Both schools acknowledged getting funding in form of subvention grant to cater for learners with special learning needs. Subvention grant is the money allocated from the Uganda government Ministry of Education Sports, Science and Technology to support such schools that have enrolled learners with disabilities generally.

These monies were not being released to schools in time to cater for the daily needs of learners whose parents had left it in the hands of the school authority. Noted from both schools, there was another challenge of teachers sponsoring themselves for further studies. The researcher also noted that teachers from both schools were not granted government scholarship at will to enable them go for further studies. Government resilience and dependence on donor support was noted to be short-lived.

On the question of the kind of support that the teachers received from resource persons from the Schools and the districts of study, the study revealed that there were many ADLs which individual teachers' could not manage handle individually, specific for each learner. The observation was that the teacher to pupil ratio was low considering the kind of support children needed during all the planned ADLs through each school term.

However, the data revealed that teachers were supported by support staffs that were deaf. The support deaf staffs were recruited locally by the school parents and teachers associations (PTA) to support teachers in the section of the deaf. The researcher's observation was that the teachers who were deaf had no formal training in the area of deafblindness, and as grade three teachers. By the time of writing this thesis, a grade three certificate was regarded as the basic requirement for all primary school teachers in Uganda. The teachers, who were deaf, were referred to as role models in the staff with regard to their expertise in the area of Sign Language communication. Sign Language is their natural mode of communication and teaching.

There was no adapted teaching curriculum seen from teacher training colleges supplied by the National Curriculum Development Centre tailored towards supporting learners with deafblindness. The schools did not have enough teaching and learning materials for learners with deafblindness, revealing the need to provide teaching and learning materials. Although both schools were receiving financial support from the Uganda Ministry of Education and Sports, Science and Technology, in terms of subvention grant, it was not sufficient enough to cater for all basic needs required by learners with deafblindness. Subvention grant is money that is allocated to support

activities for learners with special educational needs in primary schools. These include private and public but registered Primary and Secondary Schools that have enrolled learners with disabilities in Uganda.

The schools were further supplied with assistive devices such as video cameras, video decks and television sets to benefit learners with partial vision and hearing. Although the equipment was available in the Schools, teachers in one School reported that such equipment was underutilized. However, the teachers from one of the Schools reported that their head teacher was the custodian of all equipment in her office, implying that they were underutilized. Schools did not have enough reference materials in terms of adapted text books in the area of deafblindness for teachers to use. The materials available in schools were training manuals, newsletters. The books provided were to support in teaching the learners with blindness and deaf learners. The reference materials seen were suitable for the Schools in the western world, where the numbers of teacher to pupil ratios are reasonable enough. The books mentioned had little relevance in terms of content to helping teachers and learners with deafblindness develop communication skills.

An indication that there was need to provide adapted teaching books tailored towards supporting education of learners with deafblindness at different levels. School head teachers reported that Schools received support from non-government organizations such as SENSE international Uganda Development Program.

The SENSE program had sponsored the renovation of classrooms and office blocks for the sections of learners with deafblindness from both schools. Teachers also

received training from SENSE International Uganda Development Program with the support from donor funding. Both schools received refresher trainings from Perkins Project from the United States of America. Perkins program is tailored to train teachers in the area of communication and support for learners with deafblindness. Head teachers further acknowledged that schools received financial grants from the Ministry of Education and Sports, Science and Technology, in terms of their monthly salaries. According to them, this was not adequate to cater for their family basic needs. A charity organization called Little Jesus supported a school in Iganga to sponsor learners in terms of providing bursaries and scholastic materials. Methods used by the teachers to teach ADLs during literacy and numeracy skills development in the school were not up to the required standard.

5.1.4 Summary of Findings on the Techniques Used by the Teachers to Teach ADLs

Research question 4

What methods do the teachers use to teach ADLs during literacy and numeracy skills development in the Schools?

The researcher observed that tactile communication technique was equally not well understood by the teachers and themselves during some segmented ADLs. However, the kind of tactile communication techniques used by the teachers was a result of the short trainings they had received from nongovernmental and international organizations.

5.2 Study Conclusions

The study arrived at the following conclusions based on the research findings. The general impression was that although most learners had multisensory impaired; learners were able to perform in some ADLs on their own with minimal support from the teachers. Learners with adventitious deafblindness observed could do well in handcraft work. They were able to do handwork on their own with minimum support from the teachers. Imply in that the teachers had a positive attitude towards supporting learners ready for transition into the community. As result teachers used a child - to - child approaches, by way of mapping, matching and merging learners according to their abilities to help in skills and communication development. Therefore there is needed to train more teachers in the area of deafblindness and communication generally. The communication skills required of the teachers were necessary for lifelong learning could take place among learners with multisensory impairments.

On the question on how long the teachers had taught learners with deafblindness in the Schools, the researcher found out that; most teachers spent longer times than expected to teach learners ADLs than expected and their communication techniques were observed as outdated. It was evident from the data that most teachers in the schools had limited skills in the area of communication such as the use of tactile, use of calendar boxes, real objects and objects of reference, including Uganda Sign Language techniques. This was evidenced during classroom observations and the researcher's individual interviews with the teachers.

The communication skills that the teachers used included Sign Language, real objects and use of objects of reference. Local gestures were also used. The teachers were not fluent users of sign language with the learners with severe communication challenges. Tactile communications were not adequately used by the teachers. The findings show that rigidity of Sign Language used by the teachers including support from support staff that were deaf, had interfered with the adaption of other communication techniques such as the use of tactile communication and Braille during ADLs. There is an urgent need to train teachers in the area of sign language communication skills. This will enable teachers communicate better during ADLs. The researcher observed that teachers apportioned little time to attend to learners with deafness in the unit of the deaf, implying that teachers did not have enough time with learners with deafblindness during all segmented activities of daily living.

On the question about the number of children individual teachers supported, I observed that the teaching and learning environment did not favor most teachers in the schools studied, to support more than one child with deafblindness during segmented ADLs. This was identified to affect the flow of communication and achievement of daily living skills. The communication skills that the teachers needed are important to teach children with multisensory impairments to achieve life skills. Teachers did not have enough supplementary reference teaching materials for planned individualized education plans (IEPs). Each learner had unique needs that the teachers needed address differently. The teachers concerns on teacher to pupil ratios implied that there was need to train and recruit more teachers in such Schools, considering the various ADLs involved per child. It is therefore unfortunate that learners with deafblindness in Uganda who may have the potential to continue from

one low levels of education, if such concerns are not addressed. To confine learners to focus on learning prevocational skills should be revisited. Learners who fair well in terms of academics should be encouraged to advance to the next level. The study further concludes that the teacher training colleges and universities in Uganda should develop tailor-made course that will help teachers in the area of deafblindness. In addition, the teachers studied had higher grades like grade three certificates, diplomas and degrees. The study further concludes that; the government of Uganda has a Ministry of Gender, Labour and social development should replicate these study findings nationally with a larger sample size. Such studies may help validate the outcomes of this study. A larger national study is therefore required that would enable more detailed analysis of how quality of life tags an effect on learners achievements and participation.

This is hoped to demonstrate an understanding of the direct impact of the teachers' communication disparities during ADLs studied. Considering the growing numbers of persons with deafblindness in primary Schools in Uganda; there is a likelihood that learners with deafblindness will enroll to study in institutions of higher learning. Communication will be an important requirement. The teacher to pupil ratios will require teachers to think of extending service provision to parents of such learners during transitional programmes in their community. As explained earlier, schools work with multidisciplinary teams like; medical and community development personnel. Adherence to effective service delivery is necessary. Staffs working in these areas should have some degree of awareness on the various issues affecting learners with deafblindnes.

5.3 Recommendations

The following recommendations were arrived at. They require to be looked into, in terms of short term and long term interventions by all stake holders discussed in the report.

5.3.1 General Recommendations

The analysis offers the following recommendations towards mapping out support communication strategies that could help develop teachers and other stake holders:

5.3.2 Recommendations to the Teachers

It was evident from the findings that the teachers lacked adequate communication skills to enable learners achieve life skills during activities of daily living. It is useful to encourage teachers to learn to use local resources to develop basic communication. This can be by way of critically observing and analyzing individual learners' adaptations in form of different communication modes for example; building on deictic/local gestures notwithstanding the local communication modes learners use at home. Careful individual attention in terms of identifying communication methods is required. Teachers should be encouraged to pay attention and interpret Deictic (pointing) gestures and dyadic communication approaches that provide educational opportunities that introduce them to vocabulary, which can facilitate learner participation during activities of daily living. Teachers should adapt a flexible approach in teaching learners with multisensory impairment by cultivating an understanding of natural bodily perceived gestures. Learners with congenital deafblindness commonly use gestures. Critically observe turn-taking and turn-giving

for clarity and user feedback. When this is not adapted, it impairs attainment of learners with limited vocabulary that learners will have attained.

Another area of consideration is that teachers should plan for exploratory field visits to School to check on the progress of other teachers in terms of communication. Teachers will be able to learn from one another's experiences on ways to teach different ADLs.

By promoting collaborative initiatives with the parents of learners with deafblindness, exchanging ideas, sharing challenges, it will enhance learners' participation. Isolation of learners during ADLs in the communities should be minimized. This is one way teachers will be able to concretize what learners would have learnt from School and make necessary adjustments. It was further evident from the data that some learners had acquired skills in hand work like knitting, making ropes, gardening, crocheting, clay modeling etc. Basing on these findings, teachers should be encouraged to develop assessment skills to enable them carry out proper assessment of learners for proper intervention and placement. This will help teachers plan and manage Individualized Education Plans (IEP) for each child. School projects for learners observed in School **B** for example; such as poultry, gardening should be promoted as a way of sustaining transitional programs for learners who will eventually leave school and get integrated intko the community.

The implication is that hearing peers in the schools should be encouraged to learn different communication techniques so that they can support learners with deafblindness at school.

5.3.3 Recommendations to the Districts of Study

- The district leadership should liaise with the government Ministry of Education and Sports, Science & Technology and other line ministries to establish National Disability policy guidelines that will guide individuals funding, training of teachers and other service providers at district and teacher training colleges. Majority of the teachers currently fund their education in public and private-owned universities & teacher training colleges in Uganda, with minimal government financial support. The observation from teachers was that they are being deleted from the district salary pay roll whenever they attempt to go for further training. This had a negative effect on their work.
- The district leadership should encouraged teachers to work together with multi-disciplinary teams such as community development workers, to adapt community-based rehabilitation approach to further support individual families. This will hopefully support to develop learners when they leave school.
- Improved access to community ADLs through participation, using adaptable transitional strategies for learners with deafblindness, should be encouraged at community level ready to accommodate learners when they leave school life
- The districts should not only supply text books to schools but also other support materials. Teachers should be trained in preparing locally developed materials to support in the teaching of communication techniques. The materials developed should be tailor-made to suit all categories of learners with deafblindness.
- It was evident from the findings that there were support staffs that were deaf and had no formal training in the area of special needs education/deafblindness. It is important for the district leadership to offer affirmative action to persons with

disabilities so that such support staff are trained and become role model teachers in schools.

- The districts should develop comprehensive programs in terms of identification & assessment of learners with deafblindness. This would guide recruitment and placement of teachers in the schools.
- The district leadership to liaison with other stakeholders in charge of teacher training and curriculum adaptations should to deal with the issues affecting teachers who handle complex disabilities. It was common to note that a majority of the teachers had left teaching and joined private entities for better pay.
- Finally a policy on Special Needs Education which addresses the plight of teachers teaching learners with multisensory impairments should be adopted and operationalized. By the time of this research, there was no formally approved policy in Special Needs Education in place.

5.3.4 Recommendations for Capacity Building

Kyambogo University is one of the public Universities in Uganda, with a fully flagged faculty of Special Needs and Rehabilitation. It is mandated to offer training of teachers in Special Needs Education. The university should;

- Develop courses tailored–made courses in managing learners with multisensory impairments at primary school and teacher training colleges. This will support parents and community development workers, working as multidisciplinary teams. Assessment tools should be developed and the teachers be taught how to administer the tools for early intervention measures.
- The government should embark on capacity building by training more teachers in the area of deafblind education, by securing scholarship opportunities to

potential teachers, those who have not trained in Special Needs Education but have showed interest in serving learners with deafblindness.

5.4 Areas for Further Research

- Further research is needed on transitional programs for deafblind adults who leave school and get integrated into the community
- Functional assessment of learners with deafblindness could be another area for further research
- A study is required to establish in-depth causes of deafblindness basing on the social or clinical models of deafblindness
- There are five regions in the in Uganda. The study only covered two regions and two schools. There is need to do a similar study in other regions with units of the deafblind and regular schools that have enrolled children with deafblindness.
- The study focused on the teachers' use of communication techniques during activities of daily living with learners with deafblindness/multisensory impairment in primary schools. A study on academic performance of learners with deafblindness who leave primary school and later get integrated into mainstream schools is needed.
- There are very few teachers trained in Universities and other tertiary institutions of learning. There is need to do further research on the progress of transitional programs that cater for learners with deafblindness when they leave school.

- Finally it was evident from the study that communication was an outstanding challenge to all stake holders generally.

Further research is done in the area of communication because persons with deafblindness use various communication techniques during activities of daily living in the schools and in the community which the study may have overlooked.

REFERENCES

Abosi, O. (2007) Educating children with Learning disability in Africa. *Learning Disabilities Research &, 22 (3), 196 - 201*

Accardo, P. J., & Whitman, B. Y. (2002) Dictionary of Developmental Disabilities Terminology. (2nd Ed.) Baltimore: Paul H. Brooks

Access Economics. (2010). *Making Sense – An Update.* Retrieved from http://www.deafblind.org.au/content-files

Afufu, N. A. (2004). Developing the potential of deafblind children – from personal experience. *DbI Review, July – December, 8 - 9*

Aitken, S., Buultjens, M., Clark, C., Eyre, J., & Pease, L. (eds.) (2000). *Teaching Children who are Deafblind. Contact, Communication and Learning*, London: David Fulton Publishers.

Alsop, L. (2004). Competencies for training interveners to work with children and Students with deafblindness. *SKI-HI Institute*. Retrieved from http://www.nationaldb.org

Amaral, I. (2003). Analyzing teacher/child interactions: what makes Communication Successful? *DbI Review, July-December, 12 – 18*

Amin, M. E. (2005). *Social Science research: conception, methodology and analysis* Kampala: Makerere University.

Appollonio, I., Carabellese, C., Magni, E., Frattola, L. & Trabucchi, M. (1995). Sensory Impairments and mortality in an elderly community population: A six-year follow-up study. *Age and Ageing*, 24, 30-36.

Biesecke, K. (2005). 100 years of support for individuals who have deafblindness in Potsdam, Germany. *DbI Review, July – December, p. 30 – 31*

Laurent (ed.), *Communication and Congenital Deafblindness. The Development of Communication. What is new?* Paris: Centre National de Suresnes, 179-194

Bruce, S. (2005). The Impact of Congenital Deafblindness on the struggle to symbolism. *International Journal of Disability, Development and Education, 52 (3), 233 - 251*

Brennan, M., Horowitz, A. & Su, Y. (2005). Dual sensory loss and its impact on Everyday competence. *The Gerontologist*, 45, 337-346

Bloom, D. & Lahey, L. (1997). *Language Development and Language Disorders*. New York: John, Willy and Sons: UK

Boothroyd, E. & Hampton, F. (2003) A message from the president. *DbI, Review, July – December, p.1*

Bohrman, J.S. (2007). Deafblind census. Ohio Deafblind Outreach Program.

Bryman, A. (2008) *Social Research Methods* (3rd ed.). New York: Oxford University Press.

Buttler, S. (2001). I choose Supported Housing. Talking sense. Winter 2011

Chen, Dand Downing, J. (2006) *Strategies for children who have Visual Impairments and Multiple disabilities, New York: American foundation for the Blind*

Cote, L. & Cloutier, D. (2005). Deafblindness in Quebec City: an evolving issue. *DbI Review, July – December, p. 7 - 13*

Croatian Deafblind Association: Advancing the rights of individuals who have deafblindness, (2005). *DbI Review, January – June, 15 – 16*Chou, K-L. & Chia, I. (2004). Combined effect of vision and hearing impairment on Depression in elderly Chinese. *International Journal of Geriatric Psychiatry*. 19, 825-832.

Dammeyer, J (2010a). Prevalence and etiology of Congenital deafblind people in Denmark. *International Journal of Audiology*, 49, 76-82.

Daelman M, Janssen M, Larsen F, Nasfstad I, Souriau J, & Visser T M (2004). Congenitally Deafblind persons and the emergence of Social and Communicative interaction. *Communication Network Update series, 2, 1 – 8*

Deafblind Children (2008). *Helen Keller's Miracle.* Retrieved March 17, 2013, From http://www.deafblindchildren/Hellen_Keller.htm

Deasy, K. & Lyddy, F. (2006) Embodied Cognition and Development of Language For Individuals who are Congenitally Deafblind. *DbI Review July – December, 4-7*

Dianton, L. (2007). Usher syndrome study group: Living with Ushers. *DbI Review. July – December, 25 – 26.*

Drescher, L. (2005). Does Europe recognize deafblindness? *DbI Review, January – December,p.11*.

Dyke, P. (2013). A Clear View: Identifying Australians who live with deafblindness and dual sensory loss. Retrieved from, http://www.senses.westnet.com.au/misc%20PDF/SEN28081/index.html

Gall, W. R. (2003) *Educational Research - An Introduction*: New York: Longman Publishers

Guess, L. & Stremel, C, K (eds.) *Innovative Program design for Individuals with dual Sensory Impairments (pp 42-75)*. Baltimore: Paul H. Books.

Glen, E., & Smith, T. (1998) *Building Self Esteem of Children and Adolescents with Communication disorders*: Professional School Counseling, 2 (1), P. 39 - 46

Harry, K. (2006) *Interaction between the Teacher and Congenitally Deaf-blind* child Volume 153(3): American Annals of The Deaf

Haring, N., & Romer, L.T. (1995) *Welcoming Students who are Deaf-Blind into Typical Classrooms, Facilitating School Participation, Learning and Friendships*: NewYork: Paul H. Brookes Publishing Company.

Hart, P. (2006) Using imitation for congenitally deafblind adults: *Establishing Communication partnerships. Infant and Child development, p. 15, 263 – 274.*

Hathazi, A. (2005) Developing Services in Romania. *DbI Review, January – June, p.39.*

Helen Keller National Centre (2007). *In the dark about people who are deafblind?* Retrieved October 8, 2013, from http://guide.stanford.eduTTran/hk-info.html

Hope, C.I., Bundey, S., Proops, D. & Fielder, A.R. (1997). Usher Syndrome in the city of Birmingham – Prevalence and clinical classification. *British Journal of Ophthalmology*, 81, 46-53.

Inger, R., & Evabritt, A (1998) *Starting communication with Deaf/blind children:* FSDB/SHIA Consultants: Sweden

Janssen, M. (2003) Fostering Harmonious Interactions between Deafblind children and their Educators. Doctoral Dissertation University of Nijmegen.

Janssen, Riksen – Walraven & Van Dijk (2003) Towards a diagnostic Intervention Model for Fostering harmonious interaction between Deafblind children and their educators. *Journal of Visual Impairment & Blindness, 97 (4), p. 197 – 214*

Jakes, J. (2003) How to define Deafblindness? An attempt at a synthesis. *DbI Review, January - June 2003, p. 43 - 44*

Jones, S. (2006). Structure and Agency in Deafblindness Discourse: Binaries of power in Ed. Douglas, M: Deaf Worlds: Volume 22:2

Japan Deafblind Association (1998). *Current Situations and Issues of the Deafblind.*

Kaahwa, A. M. (2008). *Research Methodological facts: Made simple*. Kampala. Sure Technical Association Ltd

Kersten, S. (2006). The Siblings Network. *DbI Review, July – December, p.21*

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing.* London: Sage Publications.

Lam, B.L., Lee, D.J., Gómez-Marín, O., Zheng, D.D. and Caban, A.J. (2006). Concurrent Visual and hearing impairment and risk of mortality: The National Health Interview Survey. *Archives of Ophthalmology*, 124 (1), 95-102

Leela, A. (2004) Working in the Community with people who have deafblindness. *DbI Review, July – December, p. 13 - 15*

Linnel, P. (1998). Approaching Dialogue. *Talk, Interaction and Contexts in Dialogical Perspectives*. Amsterdam: John Benjamins.

Lopez, R. (2007). 1st Post-Induction Training Course for Interventions for Individuals who have Deafblindness. *DbI ReviewJuly – December, p. 37.*

Mairs, K. (2011). Finding New Ways to Belong. Talking sense. Winter 2011

Mathews, M. (2007). Deafblind guidelines on Service Provision. *DbI Review, July – December, p.50*

Marianne, R., & Barbara, M. (1998): *Research – Practice – Focus Competences for Teachers of Children who are Deaf-Blind*: Deaf-Blind perspectives Volume 6(1): Monmouth Avenue: USA

Marianne, R. (2008): *DeafBlindness: Educational Service Guide*.Perkins School for the Blind: USA

Miles, B & Mcletchie, B (2004) Developing concepts with children who are deafblind. DB - Link, September, 1- 8

Ministry of Education & Sports. *Education of children with Deaf-blindness & Additional Disabilities. Annual Performance Report (2010):* Kampala Uganda

Ministry of Education & Sports, (2005) *Uganda Education Statistics Abstract* Kampala.

Ministry of Education & Sports, (2004) *Universal Primary Education Supplement*. *A Users Hand Book Guide*: Kampala, Uganda

Ministry of Education and Sports (2004) Uganda Education Supplement: Ministry of Education and Sports Kampala

Ministry of Education and Sports Annual Performance Report 2009/2010

Mugenda, O. & Mugenda, G. (2003) *Research Methods: Qualitative and Quantitative Approaches*. Nairobi: Laba Graphics Services Ltd.

Munroe & Stanley (2001): Developing a national Registry of persons who are Deafblind in Canada Canada Deafblind and Rubella Association

Nafstad, A. (2008) Congenital Deafblindness, Dialogicality of Mind & Attention Directing Communication. Dronninglund, Denmark: Nord Press

Nafstad, A., & Rodbroe, I. (1999). Congenital Deafblindness, Interaction and Development towards a Model of Intervention. In: Laurent (ed.) Communication and Congenital Deafblindness. The Development of Communication. What is New? Paris Centre National de Seresnes, 165-178

National Consortium on DeafBlindness (2008): *National Count of children and Youth Who are Deafblind:* Monmouth Teaching Research Division: USA

National Curriculum Development Center (2011) *Sector Review Report:* Kampala, Uganda.

National Assessment of Progress in Education (2011) *Annual Report*: UNEB, Kampala

Ndeezi, A. (2004) *The Disability Movement in Uganda: Progress and Challenges With Constitutional and Legal Provisions on Disability*: Kampala, Uganda.

Nsubuga, E. (2007). SENSE International Uganda elevates hope for the Deafblind. *The Deafblind: A newsletter – empowering deafblind people and their families, 1, (1), 3- 14*

Orodho, J. A. (2005) Elements of Education and Social science research methods. Nairobi : Masola

Patel, M. (2011). How do you see it? Talking sense. Winter 2011

Pease, L. (2000). Creating a communicative environment. In S. Aitken, M. Buultjens C. Rodbroe, I., & Janssen, M. (2007) *Communication and Deafblindness: Congenital Deafblindness: Contact and Social Interaction*, (Vol. 2 VCDBF/ Viataal) Michielgestel: Netherlands

Prain, M. (2005). *An update of the 1994 report: Investigation into the needs of and Services for people in Australia who are deaf-blind*. Able Australia, Melbourne.

Robertson, J. & Emerson, E. (2010). *Estimating the number of people with co-Occurring vision and hearing impairments in the UK.* Centre for Disability Research. Retrieved From, http://www.sense.org.uk/sites/default/files

Robbins, N (1983) Assessment of prelingistic level: A set of activities and developmental Schedules for assessing the non-verbal communication level and language readiness for partially seeing deaf children. *Deafblind education: Developing individually appropriate Communication and language environment. Watson, M.A: New England centre for the deafblind*

Rowland, C. & Schweigert, P. (2000) Tangible Symbols, Tangible Symbol systems (Second edition), making the right to communicate a reality for individuals with severe disabilities. Oregon: Design to learn *Augmentative and Alternative Communication, 16, 61 – 78*

Rowland, C. (1990) Communicating in the classroom for children with Dual sensory Impairments: *Studies of Teacher and child Behavior Augmentative and Alternative communication 6 (4), 262 - 274*

Rodbroe, I. & Ramsing, B. (2005). Kathmandu, Napal, the next steps. *DbI Review, January – June, p.9*

Rodbroe, I, & Souriau, J (2000) Communication. In J. M Mclins (Ed.) *A guide to planning and support for individuals who are Deafblind. Toronto. University Press.*

Romer, L. T., & Schoenberg, B. (1991). Increasing requests made by people with developmental Disabilities and deafblindness through the use of behavior interruption strategies. *Education and Training in Mental Retardation*

Schneider, J., Gopinath, B., McMahon, C., Teber, E., Leeder, S., Wang, J.J. & Mitchell, P. (2012). Prevalence and 5-year incidence of dual sensory impairment in an older Australian population. *Annals of Epidemiology*, 22, 295-301.

SENSE (2013). Innovates SENSE Review 2008. SENSE, 101, Pentoville Road. London NI 9 LG. Retrieved September 20, 2013 from, http://www.sense.org.uk

SENSE-International, (2011). In touching Distance. Talking sense. Winter 2011

SENSE-Uganda, (2010) *Base Line Survey Report on Education of Deafblind Children in Uganda.* SENSE Uganda: Kampala.

Senses Foundation. (2008). Unseen and Unheard: The identification of people who ;3 are Deafblind and people who are vision impaired with additional disabilities in Western Australia.

SENSE International (2001). *Hearing and Sight loss in older people.* Retrieved June 15, 2014, From http://www.sense.org.uk/deafblindness/older.htm

SENSE-India, (1997): *A hand Book on Deafblindness*. SENSE International: India.

Sintef, (2007). *Statistics on disability in developing countries.* Retrieved December 15, 2014, From http://www.childrens-mercy.org/stats/plan/pilot.asp

Souriau, J. (1999). Meeting the Culture. In: D. Lerch (ed.), *The Emergence of Communication Part 2*, ;2 Paris: Centre National de Suresnes, 163-176.

Strauss, A. & Corbin, J. (1990) *Basics of Qualitative Research ; grounded theory Procedures and Techniques. London* Sage Publications

Steer, M. (2003). Recent developments in Australia. *DbI Review, January – June p. 21 - 22*

Stremel, C., K, & Rowland, C. (1987) *Share and Share alike: Conventional gestures through Emergent Language*. Baltomore: Paaul Books

Stuart, A. (2002) *Teaching Children who are Deaf-blind Contact Communication and Learning:* David Fulton Publishers Limited: The Chiswick Centre, 414 Chiswick High Road, London W45 TF

Silverman, D. (2001) *Interpreting Qualitative Data. Methods for Analyzing Talk, Text and Interaction (2nd edition)* London: Sage Publications, Ltd

Uganda Districts, (2007) *Information Hand Book:* Expanded Edition 2007 – 2008: Fountain Publishers: Kampala Uganda

Tongco, M. D. (2007) *Purposive Sampling a Tool for Information selection.* University of Hawai at Manoa. Retrieved January 2012, from http//scholarspace.manoa.Hawai.edu/handle/10125/227

Vilhelmsen, K. (2005). Man is Mans' joy: An aesthetic approach to co-operation with Congenitally deafblind persons. *DbI Review, Junuary – June, p. 13.*

Watters, C., Owen, M. & Munroe, S. (2004). A study of deaf-blind demographics And Services in Canada. Retrieved from, http://www.cdbanational.com/PDFs/DemographicStudy www.sense.org.uk/pdfs/sspack.pdf

Xiaoshu, Q. & Ye, T. (2006). As the population grows older, the number of disabled soars. *China view.* Retrieved January 2014, from http://www.globalaging.org/elderrights/world/2006/chinesedisabled.htm

Zeedyk, S. (2006) From Inter subjectivity to Subjectivity: The transformational Roles of Intimacy and Imitation.

Van Dijk (2010). The Theory of Social Education. Retrieved January 2012, from www.drjanvandijk.org

APPENDICES

Appendix 1: Letter of Introduction from Kenyatta University

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

OUR REF: E83/EA/22963/10

Date: 20th July, 2014

The Principal Secretary,
Higher Education, Science & Technology,
P.O. Box 30040,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MR. OMUGUR J. PATRICK REG. NO. E83/EA/22963/10

I write to introduce Mr. Patrick who is a Postgraduate Student of this University. He is registered for Ph.D. Degree programme in the Department of Special Needs Education in the School of Education.

Mr. Patrick intends to conduct research for a proposal entitled, "Teachers' use of Communication Techniques for Achievement of Learners with Deafblindness during Activities of Daily Living in Primary Schools, Uganda".

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

JK/cao

Appendix 2: Letter of Permission from the National Council for Science and Technology

Uganda National Council for Science and Technology

(Established by Act of Parliament of the Republic of Uganda)

Our Ref: SS 3811

16th September 2015

Mr. Patrick Julius Omugur
Faculty of Special Needs and Rehabilitation
Kyambogo University
Kampala

Re: Research Approval: **Teachers' use of communication techniques for achievement of learners with deafblindness during activities of daily living in primary schools, Uganda**

I am pleased to inform you that on **10/06/2015**, the Uganda National Council for Science and Technology (UNCST) approved the above referenced research project. The Approval of the research project is for the period of **10/06/2015** to **10/06/2016**

Your research registration number with the UNCST is **SS 3811**. Please, cite this number in all your future correspondences with UNCST in respect of the above research project.

As Principal Investigator of the research project, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the research protocol or the consent form (where applicable) must be submitted to the designated Research Ethics Committee (REC) or Lead Agency for re-review and approval prior to the activation of the changes. UNCST must be notified of the approved changes within five working days.
3. For clinical trials, all serious adverse events must be reported promptly to the designated local REC for review with copies to the National Drug Authority.
4. Unanticipated problems involving risks to research subjects/participants or other must be reported promptly to the UNCST. New information that becomes available which could change the risk/benefit ratio must be submitted promptly for UNCST review.
5. Only approved study procedures are to be implemented. The UNCST may conduct impromptu audits of all study records.
6. A progress report must be submitted electronically to UNCST within four weeks after every 12 months. Failure to do so may result in termination of the research project.

Below is a list of documents approved with this application:

	Document Title	Language	Version	Version Date
1	Research proposal and appendices	English	N/A	N/A

Yours sincerely,

Hellen .N. Opolot
for: Executive Secretary
UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

cc Chair, Mildmay-Uganda Research Ethics Committee

LOCATION/CORRESPONDENCE

Plot 6 Kimera Road, Ntinda
P. O. Box 6884
KAMPALA, UGANDA

COMMUNICATION

TEL: (256) 414 705500
FAX: (256) 414-234579
EMAIL: info@uncst.go.ug
WEBSITE: http://www.uncst.go.ug

Appendix 3: Permission Letter from President's Office, Uganda

THE REPUBLIC OF UGANDA

OFFICE OF THE PRESIDENT

PARLIAMENT BUILDING P.O. BOX 7168 KAMPALA, TELEPHONES: 254881/6, / 343934, 343926, 343943, 233717, 344026, 230048. FAX: 235459/ 256143
Email: secretary@op.go.ug, Website: www.officeofthepresident.go.ug

ADM 154/212/01

August 31, 2015

The Resident City Commissioner, Kampala District
The Resident District Commissioner, Masaka District

RESEARCH CLEARANCE

This is to introduce to you **Omugur Julius Patrick** a Researcher who will be carrying out a research entitled **"TEACHERS' USE OF COMMUNICATION TECHNIQUES FOR ACHIEVEMENT OF LEARNERS WITH DEAF/BLINDNESS DURING ACTIVITIES OF DAILY LIVING, UGANDA"** for a period of **twelve (12) months** in your district.

He has undergone the necessary clearance to carry out the said project.

Please render him the necessary assistance.

By copy of this letter **Omugur Julius Patrick** is requested to report to the Resident District Commissioners of the above districts before proceeding with the Research.

Alenga Rose
FOR: SECRETARY, OFFICE OF THE PRESIDENT

Copy: Omugur Julius Patrick

Appendix 4: Permission letter from Mildmay Research and Ethics Committee

MILDMAY UGANDA

Mildmay Uganda Research Ethics Committee (MUREC)

21 May 2015

Omugur Julius Patrick

E83/EA/22963/2010 **Category of review:** Initial

Dear Julius,

Re: Initial approval of your Research protocol #REC REF 0304-2015 "Teacher's use of communication techniques for achievement of learners with deaf blindness during activities of daily living in primary schools, Uganda."

Thank you for submitting an application for approval of the above referenced protocol to MUREC.

The committee received and reviewed your responses to the comments raised on the review of your protocol and was satisfied with the responses.

I am glad to inform you that approval is hereby given to conduct the study for one year, effective 21 May 2015. This approval will expire on 21 May 2016 and extension beyond this expiry date and changes to the protocol including data collection tools must be brought to the attention of MUREC.

However, before you proceed you are required to register the proposal with National Council for Science and Technology (UNCST) for final clearance.

You are also required to provide progress reports at an annual interval, to notify Mildmay Uganda Research Committee on completion as well as when publishing results.

Please do not hesitate to contact us if you have any questions.

I wish you success in this endeavor.

Yours Sincerely,

pp **Dr. Lule John,**

Chair Person MUREC

MILDMAY UGANDA RESEARCH ETHICS COMMITTEE (MUREC)
APPROVED
VALID UNTIL
DATE: 21 May 2016
P.O. BOX 24985, KAMPALA, UGANDA.

Mildmay Uganda
PO Box 24985
Kampala
Uganda
tel: +256 312 210 200
fax: +256 312 210 205
www.mildmay.org/uganda
NGO NO. S.5914 / 9191

Appendix 5: Interview Guide for the Teachers

This interview guide aims at discussing with you, on the effects of the teacher's use of communication techniques for achievement of daily living activities by with the learners with deafblindness in a primary school like yours. I intend to look at the challenges that the teachers face during their work and what you think could be done to solve such challenges in your school. The research is basically for my academic work and may also serve to help the other teachers working in other schools. I would kindly request you to allow me tape record our discussion, which information I will keep confidential. I also request you to feel free to terminate our conversation whenever the need arises. You are also free to listen to your voice and make any necessary amendments in the end of our interaction.

A. Background Information about the Teachers

1. How long have you worked in this school?
2. How did you pick interest to teach learners who are deaf/blind?
3. How many children who are deafblind do you teach?
4. What is your level of training in the area of Special Needs Education?
5. Have you ever been trained as a teacher of learners with deafblindness?
6. How did you learn how to communicate with learners who are deafblind before you started teaching ADLs?
7. How long have you worked with learners who are deaf/blind in this school?
8. How many learners with deaf/blindness do you have in your class?
9. How would you describe your teaching techniques with the learners?

B. Information about working with Learners who are Deafblind in the School

1. What communication techniques do you use to teach learners who are deafblind ADLs in school?
2. Which techniques do you prefer most?
3. How do you assess your pupils' communication abilities during activities of daily living in the school?
4. What other supplementary materials do you use to teach learners ADLs in school?
5. Which areas do you consider of great challenge to the work of teachers during indoor and outdoor activities of daily living in your school?
6. Can you briefly describe the things that he/she is capable of doing, that he/she was not capable of doing before?
7. How have you tried to work on what was not successful?
8. What other techniques have you used to help children who are poor communicators during co-curricular activities in the school?
    1. Which techniques have worked best for you?
    2. Which techniques have not worked well for you?
    3. What difficulties do you encounter teaching children with;

    (i). Congenital

    (ii). Adventitious/acquired deaf/blindness?

10. How would you describe the understanding pace of your learners?

C. Resource Materials Used at School

1. Do you have any resource person you can consult to help you address the problems you encounter in teaching children with poor communication abilities?
2. Which areas do you need help to develop meaningful communication with learners who are deafblind in your school generally?
3. Which reference teaching materials do you use when developing communication skills in your school?

D. **Characteristics of Learners with poor Communication Abilities**

1. What are the characteristics of a learner with deafblindness who is having desirable communication techniques you have observed?
2. What are some of the characteristics of a child with deafblindness you have observed as a poor communicator?
3. What ways do you use to help learners whom you regard as low communicators achievers to participate in ADLs?
4. What are some of the challenges you face during your work with children with deafblindness?
5. In your own opinion, how have inability to communicate using the desired techniques Impacted on your performance as a teacher of children with deafblindness during ADLs?

E. Support from stake holders

1 What is the Ministry of Education and Sports, Science and Technology policy on education of learners with blindness say in as far as developing communication skills is concerned?

2 What suggestions can you give to help you improve teachers' communication abilities with learners who are deafblind in your school?

3 Do you think there is a relationship between teachers' learned communication techniques and learner's communication skills during ADLs?

4 Do you have any thing you would like to say related to this research area?

Appendix 6: Observation Guide for the Teachers

Observations will be carried out to identify the effects of communication techniques used by the teachers during segmented in-door and out-door activities of daily living in the schools. Some of the aspects to be observed will include the following sub-themes;

- **Probable meaning on individual teachers identity and language competences**
  - Interpreting expressive communication (e.g. help me; I am frustrated, yelling / crying, continue an activity etc.)
  - Assess the teacher's use of formal sign language techniques alongside natural visual gestures and tactile
  - Assess the teachers knowledge on the learners use of objects of reference during communication
  - Teacher's knowledge in interpreting the learner's use of signals to communicate (e.g. pushing away objects to indicate a desire to stop an activity, reaching out or touching an object to indicate a desire for the object etc
- **Probable purpose:**
  - Teachers interpretation of receptive communication skills among learners (acknowledgements of deaf/blind learner self identity with a partner in a dialogue)
  - Identifying individual engagement and disengagement cues on video and during segmented indoor and outdoor activities (e.g. smile, turning away, reaching out etc.)

- Identifying teachers' communication techniques during Mobility and orientation skills development during indoor and outdoor ADLs on the school compound with the learners
- Identifying communication techniques used by the teachers and the learners during Dyadic and Triadic communication during an ADLs
    - Noting teachers' intentions to communicate meaning to learners
    - Noting teachers' abilities to demonstrate knowledge on the use of differentiated communication strategies (different communication for different meanings)
    - Identifying role shifts and turn-taking and turn-giving opportunities among teachers and the learners; its impact to both partners (e.g. note negative or positive reactions).
    - Identifying the context of choices (e.g. number of choice options, type of choices used) during indoor and outdoor interactions
    - Identifying conventional use of gestures
    - Noting teachers' abilities to interpret gestural signals (e.g. pointing, shaking head to indicate a NO, child lifting up self to indicate to be picked etc.) and listing them down
    - Use of communication teaching materials like real objects and objects of reference
    - Observing teachers' knowledge of children's understanding of functional use of teaching learning materials during ADLs
    - Observing object permanence in learners, reasons for using them in connection to the desired meaning in context

- Identify other functional channels children use to perceive information (e.g. auditory, visual, kinesethic or touch etc.).
- Noting teacher's interpret communicative responses; during Dyadic and triadic communication ("YOU", "ME" and 'IT')

Appendix 7: Permission Letter to the Schools of Study

APPENDIX 3: Permission Letter to the Schools of the Study

01/07/2014

Omugur Julius Patrick
Kyambogo University

P.O Box 1,

Kyambogo

Kampala-Uganda

Head Master,

Buwanda

School for the Deaf Blind

Dear Sir/Madam,

Subject: Permission to Conduct a Research in your School

I work in the above University. However, I am currently on study leave for a Doctor of Philosophy Degree (PhD.) in Special Needs Education at Kenyatta University, Kenya. One of the requirements of this course is that the candidate is required to carry out research and submit a thesis in the final year. My area of research is on *"Teachers' use of Communication Techniques for Achievement of Learners with Deaf/blindness during Activities of Daily Living in Primary Schools in Uganda*". I intend to stay in your school, observing and interacting with the teachers and learners who are Deaf-blind together with the non-teaching staff. The main focus will be on teachers' communication potentials. I will basically interview and observe head teachers and teachers who directly teach learners who are Deaf-blind. I expect to do this in line with the School term calendar (2014/2015). I have been granted to do the research by the District Education Officer and National Council of Science and Technology in Uganda. The purpose of this letter therefore is to kindly request your office to permit me carry out the research in your school. I will Endeavour to keep all the information obtained in the school confidential.

Thank you.

Yours faithfully

OMUGUR JULIUS PATRICK

Student Registration Number: E83/22963/2010

Tel. 0774 047 067 OR 0705799171

APPENDIX 4: Permission Letter to the Schools of the Study

01/07/2014

Omugur Julius Patrick
Kyambogo University

P.O Box 1,

Kyambogo

Kampala-Uganda

Head Master,

Buckley

School for the Deaf Blind

Dear Sir/Madam,

Subject: Permission to Conduct a Research in your School

I work in the above University. However, I am currently on study leave for a Doctor of Philosophy Degree (PhD.) in Special Needs Education at Kenyatta University, Kenya. One of the requirements of this course is that the candidate is required to carry out research and submit a thesis in the final year. My area of research is on *"Teachers' use of Communication Techniques for Achievement of Learners with Deaf/blindness during Activities of Daily Living in Primary Schools in Uganda"*. I intend to stay in your school, observing and interacting with the teachers and learners who are Deaf-blind together with the non-teaching staff. The main focus will be on teachers' communication potentials. I will basically interview and observe head teachers and teachers who directly teach learners who are Deaf-blind. I expect to do this in line with the School term calendar (2014/2015). I have been granted to do the research by the District Education Officer and National Council of Science and Technology in Uganda. The purpose of this letter therefore is to kindly request your office to permit me carry out the research in your school. I will Endeavour to keep all the information obtained in the school confidential.

Thank you.

Yours faithfully

OMUGUR JULIUS PATRICK

Student Registration Number: E83/22963/2010

Tel. 0774 047 067 OR 0705799171

Appendix 8: Letter of Informed Consent from Research Participants

Dear participant,

I am a student at the Kenyatta University, Nairobi, Kenya, doing a doctoral degree in Special Needs Education. I am particularly interested to carry out research on the effects of the Teachers' use of Communication Techniques for Achievement of daily living activities by Learners with Deaf blindness in selected Primary Schools in eastern and mid-western Uganda. This study is my initial effort to discover the communication techniques teachers use during ADLs because they are professionals in the area of Special Needs Education. If you decide to participate in my study, this is what will happen:

1. I will interview you to find out how you go about your daily work with learners who are deaf/blind. The interview may last between 45 – 60 minutes.
2. I will do video recording of your interview for future reference. I will position video cameras in the class room at convenient distances to capture details of your communication strategies with the learners
3. In the process, I will accompany you inside the classroom and outside class room activities according to your class time table, to learn more on communication
4. After videotaping your interaction with the learners, you and I will view the video tapes together.
5. I will later sit with you and make comments on the tapes and ask you some questions about your communication patterns identified from the video recordings.

6. After collecting data, I will analyze results. A copy of the complete dissertation will be given to your school. You will also be given the opportunity to read my dissertation supplied to the school.

Your decision whether or not to participate will not affect your relationship with the head teacher or the school administration.

If you have any questions, please feel free to contact me on the following addresses;

Omugur Julius Patrick, Tel. +267 047 067 E-mail: juliusomugur@yahoo.com.

---------- ----------

Signature Date

Appendix 9: Permission Letter to the District Education Officers

APPENDIX 5: Permission Letter to the District Education Officer

Omugur Julius Patrick
Kyambogo University
P.O Box 1,
Kyambogo
Kampala-Uganda

1st May 2014

The District Education Office,
Iganga District
P. O. Box
Iganga

Dear Sir/Madam,

Subject: Permission to Conduct A Research in Special Needs Education

I have been working in the above University. However, I am currently on study leave on study program for a Doctor of Philosophy Degree (PhD.) in Special Needs Education at Kenyatta University Nairobi, Kenya. One of the requirements of this course is that the candidate is required to carry out research and submit a thesis in the final year. My area of research is on *Teachers' use of Communication Techniques for Achievement of Learners with Deaf/blindness during Activities of Daily Living in Primary Schools in Uganda*. I intend to stay in your school, observing and interacting with the teachers and children, with Deaf-blindness together with the non-teaching staff. The main focus will be studying the communication between the teachers and Deaf blind learners during ADLs. I will basically interview and observe head teachers and teachers who directly teach learners who are Deaf-blind. I expect to do the study during the School term calendar, 2014/2015. The purpose of this letter therefore is to kindly request your office to permit me carry out the research in your district . I will Endeavour to keep all the information obtained in the school confidential.

Thank you.

Yours faithfully

OMUGUR JULIUS PATRICK – Student Reg. No: **E83/22963/2010**

Tel. 0774 047 067 or 0705799171

APPENDIX 6: Permission Letter to the District Education Officer

Omugur Julius Patrick

Kyambogo University

P.O Box 1,

Kyambogo

Kampala-Uganda

1st May 2014

The District Education Office,

Masaka District

P. O. Box

Masaka

Dear Sir/Madam,

Subject: Permission to Conduct A Research in Special Needs Education

I have been working in the above University. However, I am currently on study leave on study program for a Doctor of Philosophy Degree (PhD.) in Special Needs Education at Kenyatta University Nairobi, Kenya. One of the requirements of this course is that the candidate is required to carry out research and submit a thesis in the final year. My area of research is on *Teachers' use of Communication Techniques for Achievement of Learners with Deaf/blindness during Activities of Daily Living in Primary Schools in Uganda.* I intend to stay in your school, observing and interacting with the teachers and children, with Deaf-blindness together with the non-teaching staff. The main focus will be studying the communication between the teachers and Deaf blind learners during ADLs. I will basically interview and observe head teachers and teachers who directly teach learners who are Deaf-blind. I expect to do the study during the School term calendar, 2014/2015. The purpose of this letter therefore is to kindly request your office to permit me carry out the research in your district . I will Endeavour to keep all the information obtained in the school confidential.

Thank you.

Yours faithfully

OMUGUR JULIUS PATRICK – Student Reg. No: **E83/22963/2010**

Tel. 0774 047 067 or 0705799171

Appendix 10: Map of Uganda Showing Kampala, Iganga and Masaka Districts of Study

Key Masaka

Kampala

Appendix 11: A Teacher Communicating to a child with Deafblindness using Tactile Language

Source: KYU Lecturer practically communicating with a Child with Deafblindness Adapted from Module 12: *Communicating with persons with deafblindness using a Diadic approach*

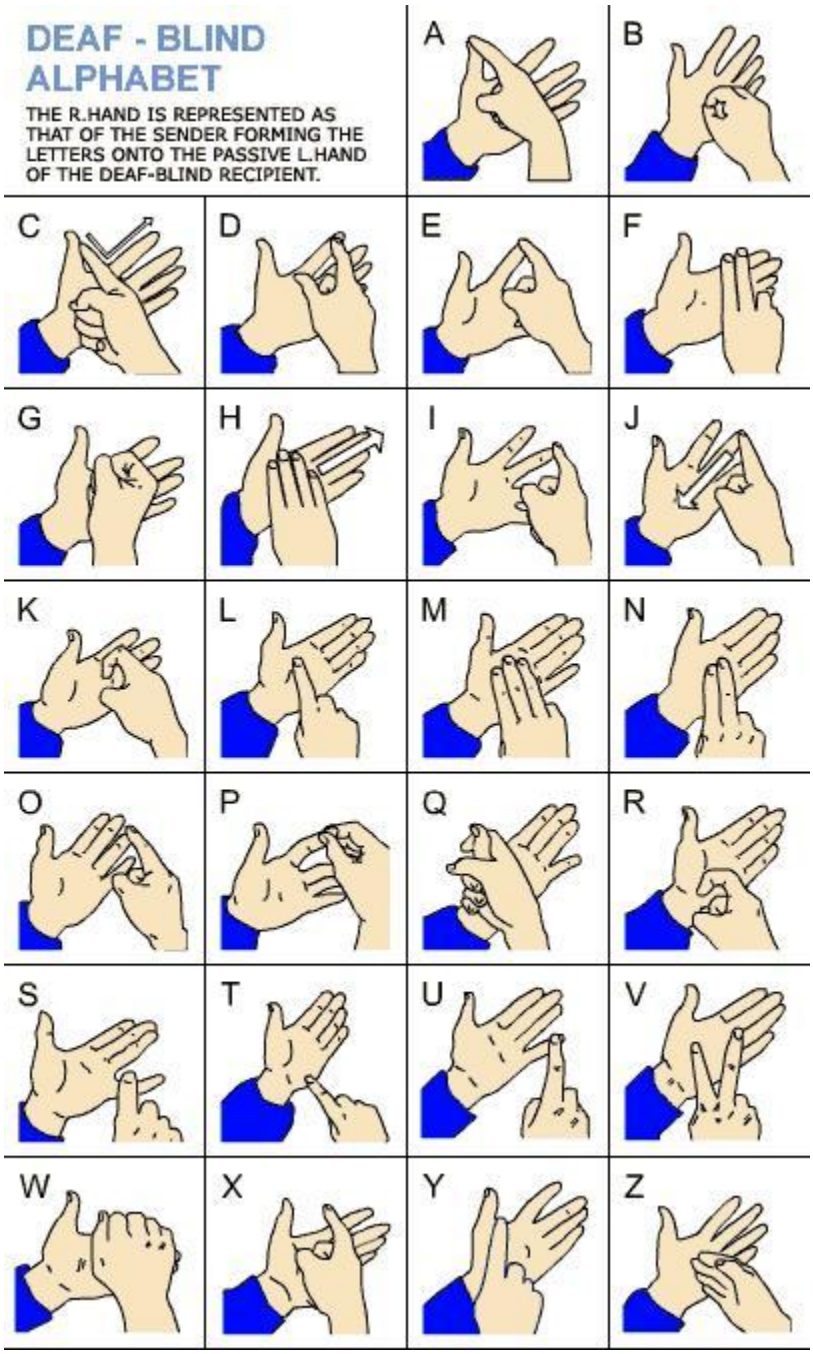
Appendix 12: A Picture of Learners with Deafness, interacting with other peers during one of the ADLs of fetching water from the school borehole (*Theory of social interaction explained*)

(Source: School of Study in Iganga District 2015)

Appendix 13: A Picture of Learners with their Teacher during Leisu-re Time

(Source: School of Study in Iganga District, 2015)

Appendix 14: A two hand sign language alphabet for persons with deafblindness



Source: (Adapted from Perkins Resource Centre, USA. (Accessed, 20th August 2016).

Appendix 15: A Calenda Box to Sequence ADLs

Source: (Iganga School of study in Eastern Uganda (2015).