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THE AGA KHAN UNIVERSITY

Tanzania Institute of Higher Education

Institute for Education Development, East Africa

**EXPLORING FACTORS INFLUENCING GRADE-LEVEL READING PROFICIENCY
AMONG THE HEARING IMPAIRED LEARNERS:**

A CASE OF A PUBLIC PRIMARY SCHOOL IN KIAMBU COUNTY, KENYA

BY

KURIA JENNIFER WANJIRU

A dissertation submitted to the Institute for Educational Development, East Africa

in partial fulfilment of the requirements for the Degree of Masters in Education

(Language and Literacy in Education)

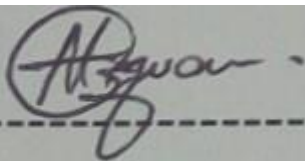
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December, 2016

APPROVAL PAGE
THE AGA KHAN UNIVERSITY
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Institute for Educational Development East Africa
To: The Institute for Educational Development, East Africa

KURIA JENNIFER WANJIRU

I hereby give my permission for the research project of the above named student, for whom I have been acting as supervisor, to proceed to examination.



A rectangular box containing a handwritten signature in black ink. The signature appears to be 'M. Ngwaru' with a circular flourish around the first letter. Below the signature is a horizontal dashed line.

DR.MARRIOTE JACOB NGWARU

Date: -----

The members of the Research Project Evaluation Committee appointed to examine the research project of the above named student find it satisfactory and recommend that it be accepted.

(First Examiner)

(Second Examiner)

Date: -----

DEDICATION

To my lovely mother: Margaret Wanjiku Kuria. I am your exceptional child. You accommodated my special needs in a very unique way and your presence during this study was my greatest source of motivation.

My daddy: You always reminded me “Nothing can dim the light which shines from within despite your handicapping condition”. Continue resting in peace dad.

Micki and Maxi: Your attitude of positive expectation with mommy being away was a mark of superior personality. I love you boys.

ABSTRACT

In primary school, learners should read to grade level, synthesize, explain and analyze what they read for them to be called proficient readers. Yet, according to the US National deaf children's society, 20% of HI learners leave primary school with a reading level at or below second grade. This denies them the opportunity to acquire knowledge and skills because academic content is transmitted through text as they pass through grade levels. Subsequently, they may not benefit from learning and participate fully in public and economic life. In Kenya, a number of studies address reading to grade-level proficiency based on observations of hearing learners but fail to give voice to the HI learners. The aim of this study, in contrast, is to broaden the debate to include these learners who seem marginalized. This study employed a qualitative approach and, intrinsic case study design to explore factors influencing grade-level reading proficiency among the HI learners. Findings were that, among others, disability was the strongest barrier to literacy development making it very difficult for HI learners to read to grade-level proficiency. This study concludes that besides disability itself, the homes and the schools should provide enabling environments that can promote literacy development among the HI learners. This study recommends the need for a country-wide sensitization on the need for a barrier-free literacy environment for HI children because of their disability as way of inclusion in all spheres of their daily lives.

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My genuine appreciation goes to my supervisor Professor Marriote Ngwaru for his scholarly advice, constant encouragement and the accommodations he made to include me in the literacy class and during this study as a student with residual hearing, despite his extremely tight schedule.

To the faculty members MED, Cohort 2017 and the ICT team whose wisdom I will value forever. You are a selfless lot, always available and ready to offer assistance when and where needed.

On the same vein I would like to thank my colleagues who assisted me in one way or another and most especially Julia Kavata who understood my needs as a hard of hearing person and never left my side.

DECLARATION

I declare that this dissertation is my original work and has not been presented in any other university/institution for consideration of any certification.

Signature: *Kuria Jenny*

Date.....

SUPERVISOR

This dissertation is submitted with my approval as a University Supervisor.

Signature.....Date.....

Aga Khan University

ABBREVIATIONS AND ACRONYMS

ECDC	-	Early Childhood Development Centers
ECDE	-	Early Childhood Development and Education
EFA	-	Education For All
FPE	-	Free Primary Education
HI		Hearing Impaired
KSL		Kenya Sign Language
MOE		Ministry Of Education
NACOSTI		National Commission for Science, Technology and Innovation
SEE		Signed Exact English
SES		Social Economic Status
SNE		Special Needs Education
TSC		Teachers Service Commission
UNESCO		United Nations Educational Scientific and Cultural organization
UWEZO		Kiswahili word meaning Ability of power

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background of the study, statement of the problem, the rationale of the study, research questions and the limitations of the study. In addition, significance of the study, scope and limitation of the study have been included. The terms used in the study have also been operationally defined.

1.1 Background and Context of the Study

Globally, there is a general increase in literacy among the primary school children. Despite this increase, around 10% still emerge out of education systems without basic reading skills (Glynn, Wearmouth, & Berryman, 2005). In addition, 20% of 11 year olds of the English speaking children are unable to read confidently.

The expectations of the primary school curricula in the African continent stresses on the importance of improved basic literacy skills in early grades as (Trudell, Dowd, Piper, & Bloch, 2012) contend. It is important to note that literacy practices promote children's reading development. However, research shows that sub-Saharan Africa has got the lowest reading levels. 92% of children in sub-Saharan Africa are not able to read to grade-level proficiency (NASMLA, 2014). The reports further reveal that in East Africa, majority of children cannot at grade level. Literacy levels in Kenya are below average but a little better than Tanzania and Uganda (Uwezo, 2010). The reports further advance several factors that could be associated with the reading levels which include; pupils' exposure to printed materials, family socio-economic status, individual's personality, physical environment, cognitive and language factors.

According to the United States National Research (Lin, Niparko, & Ferrucci, 2011), the average student with hearing loss graduates from high school with reading comprehension skills at approximately fourth grade-level. 20% leave school with a reading level at or below second grade (National deaf children's society 2014). Hearing impairment is a generic and heterogeneous term used to define all persons with hearing loss. This implies any level of hearing loss along the continuum from mild to profound which is significant enough to impact upon a child's spoken

language development (U.S Department of Education: National Centre for Education 2001).

In Kenya, studies carried out by Uwezo (Kenya, 2010),(Kenya, 2012) observe to what grade-level proficiency the hearing learners are reading but fail to give voice to the Hearing Impaired (HI). From my experience, learning to read for the hearing impaired learners is torturously slow and frustrating meaning they may not be reading to grade-level proficiency, which is clearly evident from their low performance in national exams. Without well-developed literacy skills which form the base for reading development, the HI may not benefit from learning in ways that enable them to participate fully in public and economic life (New London Group, 1996). That is why my study seeks to explore factors influencing grade-level reading proficiency among the HI

1.2 Statement of the Problem

Reading is one of the most important literacy skills that influence learning in all other academic subjects and has been recognized as a fundamental skill contributing to academic success in the formal education system. Despite the fact that reading plays a major role in enhancing learning across all the areas of school curriculum, the HI learners may not be reading to grade-level proficiency as they move from one critical stage to the next. Subsequently, they may be denied the opportunity to acquire knowledge and skills because as they pass through grade levels, more and more academic content is transmitted through text. They may therefore not benefit from learning. That is why my study seeks to explore factors influencing grade-level reading proficiency among the HI whose seem marginalized in regard to reading compared to their hearing-age peers

1.3 Rationale of the Study

There is paucity of data in Kenya regarding grade-level reading proficiency among learners with hearing impairment as they transit from one critical level to the next in primary schools. My experience as a teacher for the HI in Kenya, has indicated that, for the majority of my learners, learning to read is tortuously slow and frustrating. In addition, as a national examination marker their English language compositions point to very low literacy abilities. They may therefore not benefit from learning in ways that allow them to participate fully in public and economic life. It is therefore important to explore factors that influence their grade-level reading proficiency so

that eventually they can read just like their hearing counterparts and benefit from learning.

1.4 Research Questions

The study sought to answer the following research questions;

1. To what extent are the (HI) learners reading to grade-level proficiency?
 - i. What learner-based factors influence grade-level reading proficiency among HI learners?
 - ii. Which home-based factors influence grade-level reading proficiency among the HI learners?
 - iii. What institutional/school-based factors influence grade-level reading proficiency among HI learners?

1.5 Significance of the Study

Findings of this study will offer insight into the real dynamics of situations and people thus creating awareness to all education stake-holders on the literacy needs of HI learners. The stake holders will see the need for a barrier free environment with improved pedagogical and systemic practices that promote literacy development so that the HI may have the right foundation for reading to grade-level proficiency. This will in turn inform the curriculum developer on the need for a differentiated or flexible curriculum for the HI so that their exams are in addition taken using a differentiated response (output level).

1.6 Limitations of the study

The time frame for the Masters Dissertation project was short and I would have wished to explore further but I did a commendable work within the stipulated time. In addition, the teachers in the research site were not too cooperative. I would have wanted to interact with them a great deal but they always seemed busy leaving very limited time for interactions a fact that made classroom observation almost impossible were it not for the intervention of the deputy head-teacher. One classroom teacher signed throughout the lesson without uttering a word, at least for the learners to lip-read. This was meant to frustrate the researcher but fortunately, the researcher is fluent in sign language.

Operational Definition of Terms

Assistive devices: Technical sound amplifiers for the hearing impaired

Critical levels of schooling: Refers to classes 1, 4 and 8

Decibel (dB): A unit of measurement for the intensity of sound.

Grade-level reading: This is the ability to recognize words and symbols and derive meaning from text at the required stage of schooling

Hearing Impairment: This implies any level of hearing loss which is significant enough to impact upon a child's spoken language development.

Interpreter: A person who facilitates communication between the hearing impaired students and the hearing community.

Residual hearing: hearing which remains after a person has experienced a hearing loss.

Speech reading: the use of lip movements facial expressions, and body language to determine the speaker's meaning.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter I review literature related to my study which explores factors influencing grade-level reading proficiency among the hearing impaired learners. This chapter reiterates the main research questions; to what extent are the HI learners reading to grade-level proficiency and the subsidiary questions; what learner-based, home-based and institution/school based factors influence grade-level reading proficiency among the HI learners, to justify literature review. Informing and framing my literature review is a theoretical frame work which contains two theories which are almost related; the Multiliteracies theory and Vygotsky's Socio-cultural theory of human learning. Further, I have conceptualized hearing impairment and grade-level reading proficiency to frame the problem and focus of my study. In addition the following topics have been captured in order to investigate my study topic: learner-based factors, home-based factors, school/institution-based factors and their relationship to grade-level reading proficiency among the HI learners.

2.1 Theoretical Framework

My study is largely underpinned by the 'Multiliteracies' approach (The New London Group, 1996). The approach presents a theoretical overview of the connections between the changing social environment facing students and teachers and a new approach to literacy pedagogy called "Multiliteracies." Multiliteracies refer to two major aspects of literacy which are; the social diversity and multimodality.

The social diversity aspect refers to the availability of conventions of meaning in different cultural, social or domain-specific situations. This aspect chimes well with the hearing impaired learners in the study school which is a boarding school, who come from different socio-economic, cultural and linguistic backgrounds but lack the ability to master sound-letter correspondence which is a base for reading development. For them, literacy pedagogy should not primarily focus on the rules of single standard form of language but should be conceptualized as a social practice. Their social cultural experiences and their 'funds of knowledge' (Moll, Amanti, Neff, & Gonzalez, 1992) should be acknowledged in pedagogy. Teachers of HI learners need to reflect on and critic the discourses of their own culture in order to include these learners in classroom pedagogies. For example they can use the gestures and

other modes of representation much broader than language alone as (Cope, Kalantzis, & New London Group, 2000) observes, besides trying to be fluent in sign language. This is because the teacher is very important in the literacy development of hearing impaired learners who come to school with very limited language capacities. These learners need to learn sign language which is their first language when they get to school and the teacher should provide the much needed literacy environment. Subsequently, if the hearing impaired learners are taught using the Multiliteracies approach where convention of meanings are available in a language they understand, their literacy development will be enhanced increasing opportunities for reading at grade-level proficiency.

The multimodality aspect is concerned with the written-language modes of meaning which interface with oral, visual, audio gestural and spatial patterns of meaning. HI learners are visual learners and to compensate for their hearing loss, other modes of meaning are needed. This means that the traditional reading skills which (written modes alone), need to be supplemented with multimodal communications, particularly those typical of the new digital media in order to expand the traditional understanding of the function and form of the written word. Teachers will of essence require a new metalanguage-language to describe texts- in order to articulate the salient characteristics of emergent genres, including “kineikonic” or moving image texts (K. Mills & others, 2011). This resonates well with hearing impaired learners who also have a low attention span due to various reasons but “kineikonic” is an interesting way of ensuring they attend to tasks long enough to their completion.

Similarly, this study is placed within the socio-cultural theory of human learning, which is a social constructivist perspective (Vygotsky, 1980) The theory describes learning as a social process and the origination of human intelligence in society or culture. The major theme of Vygotsky’s theoretical framework is that much learning is social as parents and care givers, for example, verbally guide children through the Zone of Proximal Development (ZPD). The same case applies to hearing impaired children whose learning ought to be social as parents and care givers use sign language to guide them through the Zone of Proximal Development (ZPD). For the HI learners who have got 90% hearing parents (U.S Department of Education: National Centre for Education 2001), the theory requires parents and care givers become fluent in sign language in order to engage these children with early

interactions around home literacy activities like story-telling, cooking and washing, among others. These home literacy interactions form the base for later reading development as (Whitehead, 2004) observes.

2.2 Conceptualizing Hearing Impairment and Grade-level reading Proficiency

This section introduces the concept of hearing impairment and grade-level reading proficiency among learners. The section is discussed in three sub-sections; hearing impairment, reading, grade-level reading.

2.2.1 Hearing Impairment

Hearing impairment refers to any level of hearing loss along the continuum, from mild to profound which is significant enough to impact upon a child's spoken language development (U.S Department of Education: National Centre for Education 2001). One source of risk of reading failure is hearing impairment. This individual risk factor should be responded to with extra attention to quality and intensity of literacy instruction. Kirk, Gallagher, Coleman, & Anastasiow (2012) observe that, a striking and frustrating factor about reading development is that it is much less likely to proceed in a trouble free manner for certain groups of children. In children, hearing loss can affect the ability to learn language. A Multiliteracies pedagogy of the new London group advocates on building on the life world experiences of hearing impaired learners, situating meaning making in real world contexts to enhance literacy development which forms the base for reading development.

2.2.2 Reading

Reading has been defined differently by different scholars but all of them agree that, reading involves the ability to derive meaning from written words or symbols (Walczyk & Griffith-Ross, 2007; Perfetti, 1989). Reading is more than just words on a page; it encompasses recognizing written symbols, decoding text, and constructing that text into meaningful information. The key requirements for the development of reading skills are generally two: (1) familiarity with an oral language and (2) understanding the mapping between that language and the printed word (Mayberry, 2002). That mapping is based on sound and hence the spoken language aids in the reading process. However, this only applies to hearing learners but the hearing impaired learners are disadvantaged on both counts because they lack the ability to deduce the phonemic sound system. Conversely, the notion of Multiliteracies supplements this mapping based on sounds by focusing on modes of representation much broader than sounds alone (multimodality) which can be used by the hearing

impaired learners to enhance literacy practices that promote reading development.

2.2.3 Grade-level reading

Grade-level reading is the ability to recognize words and symbols and derive meaning from text at the required stage of schooling (Moats, 2001). Children must “learn to read” so that they can “read to learn” (Cockcroft, 2014). This is because as they pass through the grade-levels more and more content is transmitted to them through text. Subsequently, they are expected to gradually transition from one level of schooling to the next having acquired the requisite grade level reading skills. Their ability to acquire new knowledge and skills depends largely on their ability to read and extract meaning from text. Reading comprehension aids in the development of ideas, exploration of new knowledge, and the exchange of information.

In the United States of America the campaign for Grade-Level Reading has set a goal of promoting grade-level reading improvements in the majority of states and increasing by 50 percent the number and proportion of low-income children reading at grade level by the end of third grade in at least a dozen states over the next 10 years (Hursh, 2007). The Campaign mobilizes city leaders, educators, philanthropic leaders, service providers and parents to close the gap in reading achievement among low-income students and their peers raise the bar for reading proficiency so that all students are assessed by world-class standards and ensure that all children have an equal opportunity to meet those standards.

According to Uwezo reports (2010, 2012) in East Africa, campaigns to promote grade-level reading improvements among the hearing learners are in place. Unfortunately, to the best of my knowledge, no report shows how the hearing impaired learners are doing as far as grade-level reading proficiency is concerned. My experience as a teacher of the HI learners points to a situation where these learners may be having difficulties reading to grade-level proficiency in Kenya. They transit from one class to the next without attaining the appropriate grade level reading proficiencies and eventually exit class eight way below the levels of their hearing age-peers. This study therefore seeks to identify factors that influence grade level reading proficiency among the (HI) learners in a public primary school for the hearing impaired in Kiambu County, Kenya.

2.3 Learner-Based Factors and Grade-Level Reading Proficiency

This section discusses factors, which influence the learners’ ability to read to grade-level proficiency.

2.3.1 Degree of hearing loss/ hearing threshold

The degree of hearing loss is a factor within a learner that can have a bearing on grade-level reading proficiency. Degree of hearing loss/ hearing threshold refers to the level of severity of hearing loss (American Speech-Language-Hearing Association; ASHA, 2006):(Association & others, 2008) In audiological assessment degree of hearing loss is measured in decibel (Db).

Table 1: Hearing thresholds

Degree of hearing loss	Degree of hearing threshold in Db
Mild hearing loss	24-40 Db
Moderate hearing loss	41-55 Db
Severe hearing loss	56-70 dB
Profound hearing loss	70 dB and above

Source: American Speech-Language-Hearing Association; ASHA, (2006).

Table 1 shows the degrees of hearing loss and their corresponding thresholds in decibels (Db).

Daniels (2000) found that the degree of hearing impairment may affect literacy development. Similarly, Studies carried out by (Karchmer & Mitchell, 2003) found that greater degree of hearing loss is associated with lower reading achievement. In the same vein, (Marschark, Shaver, Nagle, & Newman, 2015) found that even minimal hearing losses, as small as 15dB (decibels), can significantly affect literacy. These claims justify that hearing impairment is a disability or handicapping condition that affects literacy development denying hearing impaired learners the opportunity to read at grade-level proficiency. In addition (Knoors & Marschark, 2014) in their study found out that up to 40% of hearing impaired learners have other conditions or disabilities that affect literacy. (Spencer & Marschark, 2010) add that the combined effects of multiple disabilities among the hearing impaired learners tend to be multiplicative rather than additive.

2.3.2 Mode of Communication

Communication is major factor influencing the way hearing impaired learners can read at grade-level proficiency. This is because the primary challenge in educating children with hearing loss is meeting their communication needs. More than 90% of HI learners, have hearing parents, but because of their hearing loss, their access to spoken language is limited (Mitchell & Karchmer, 2004). Thus most HI children arrive at school with significant delays in language development relative to their hearing peers (Knoors and Marschark, 2012). A possible explanation is that the hearing impaired children do not have full access to the language and environmental diversity of their hearing age peers. The social cultural theory explains that learning is social as parents and care givers, for example, verbally guide children through the Zone of Proximal Development (ZPD). The same case should apply to HI learners

who seem advantaged because of their disability. These interactions are very important in literacy development because this is how language develops. Similarly, extended literacy pedagogy for the hearing impaired learners that go beyond verbal communication is needed to enhance literacy development so that reading at grade-level proficiency is achieved.

2.3.3 Amplification

Amplification which is a learner based factor influencing grade-level reading proficiency refers to “an increase in frequency of sound”(Association & others, 2007). Amplification devices for the hearing impaired learners include personal amplifiers (e.g., hearing aids [HA] and cochlear implants [CI]), which are typically worn on the head or on the body, and assistive listening devices that are not used on the head or body, such as classroom sound field amplification systems. Hearing aids may reduce the impact of barriers that hearing impaired learners experience in schools, such as classroom noise, rapid rate of discussion, rapid change of topics, and large numbers of people engaged in conversation, all of which can prevent hearing impaired learners from participating in teacher-student and student-student interaction (Hagan & Todd, n.d.) These interactions are literacy practices that promote reading development. Findings indicate that early access to language via assistive listening devices is sufficient to provide HI learners with age appropriate reading abilities (Geers & Nicholas, 2013) as teachers and parents verbally guide learners through the (ZPD) increasing chances of reading to grade-level proficiency.

2.4 Home-based Factors and Grade-Level Reading Proficiency

This section discusses the home/family factors that influence grade level reading fluency among hearing impaired learners. The factors have been identified as, early identification and acceptance of HI children, home literacy environment and financial resources in the home.

2.4.1 Early Identification and Acceptance of HI Children

Early identification of hearing loss in infants and young children has been recognized since the mid 1900 (Simmons, 1978; Ruben, 1993 and Anastasiow, 2012.) This is a major home-based factor that influences grade-level reading proficiency. In the United States, professionals have worked tirelessly to develop and improve the policies, procedures and protocols for implementing Universal Newborn Hearing Screening (UNHS) (Yoshinaga-Itano, 2003). UNHS serves as an entry point for many services for infants with hearing loss and their families. The ultimate goal for these

services is to maximize linguistic and communicative competence and literacy development for children who are hearing impaired. Through early identification and intervention, children with hearing loss can develop communication skills equivalent to their peers who have normal hearing, affording individuals with hearing loss the educational, social and vocational opportunities. Communication skills are pre-requisites for reading development.

Early identification allows for early intervention increasing expectations that many HI children will develop literacy abilities to enhance their reading skills (Barnet 2001). If hearing parents are to influence their child's literacy, early intervention and acceptance means that they should try to become fluent in sign language, signed English or cued speech (Bodner-Johnson and Sass-Lehrer, 2003). Parents need also to understand and incorporate the broader habit of using vision rather than sound for comprehending the world. This chimes well with Multiliteracies, which advocates for the availability of conventions of meaning in different cultural, social or domain-specific situations. Parents and teachers should not focus on the language they know but can use the gestures and other modes of representation much broader than language alone. This may help hearing impaired learners read to grade-level proficiency.

2.4.2 Home Literacy Environment

Home literacy environment is a factor that can have a bearing on how HI learners read to grade-level proficiency. Home literacy environment refers to the direct parent-child interactions around literacy tasks; reading with and /or listening to children, talking about, giving and receiving support for homework and school concern, engaging in other activities with children that involve literacy such as cooking or writing notes (Auerbach, 1989). This relates to parents who are regarded as the first children's teachers and therefore bear the primary responsibility for children's literacy development with reading being one of the literacy practices (Whitehead, 2007). The intervention-prevention approach of family literacy, Auerbach (1989), sees challenges to literacy development as rooted in the parents inability to provide positive literacy attitudes and interactions at home. From this perspective literacy is seen not just as an amalgam of cognitive and linguistic abilities but as complex social and cultural practices(Street, 2001). Subsequently, literacy should be conceptualized as a social practice among the hearing impaired and rich parent-child interactions around literacy tasks like reading should be availed to HI learners.

Similarly, the home literacy environment determines the emergent literacies a child will take to school. Emergent literacy at school entry is important because of its association with later reading (Wasik, 2008). Parent's conversational interventions like parents' talk and stories, besides shared book reading is beneficial across cultures and income levels in promoting reading development as well. By reading and telling stories to young children who are hearing impaired within the Multiliteracies approach, multimodality which concerns written-language modes of meaning which interface with oral, visual, audio gestural and spatial patterns of meaning can be used to enhance interactions. This is because the best classroom cannot make up for failure in the family. The contention is that illiteracy breeds illiteracy: in an "intergenerational cycle of illiteracy" the 'plague' passes from one generation to the next, creating a permanent, self-perpetuating 'underclass' (BACH, 1989).

2.4.3 Socio-economic Status of the Family

Many studies on spoken language monolinguals and bilinguals have shown that socio-economic status (SES) significantly influences literacy outcomes denying children learning opportunities for grade-level reading proficiency Twitchell, Morford, & Hauser (2015) observe that children in higher SES homes have better oral proficiency in the language of literacy instruction. This arises from the fact that higher SES-parents read more, are strong role models for their children in acquisition of reading skills (Raag et al., 2011). High SES homes provide environments with the kinds of literacy in the specific ways the school expects, which gives these children an advantage. Similarly, a study done in Lindi, southern Tanzania by (Ngwaru & Oluga, 2015) point to a relationship that exists between poverty and low literacy. In the study area of Lindi Rural District, 79.8% of parents were living on about Tsh50, 000 per month, equivalent to about two dollars a day. These are parents who may not afford to have their children access sustainable schooling. In addition, many parents in rural areas are always at pains to provide basic scholastic materials needed at school as observed by (Ngwaru, 2011a) in an ethnographic study. Therefore poverty impedes the involvement of parents in schools because of what the author called "ruling passions."

Thus, poverty and low literacy levels are related. Wherever literacy levels are low, poverty levels are invariably lower. However, it is true to say that, poverty ridden homes have rich literacy experiences, for example, the interactions and the artefacts found within. Study after study, for example, (Diaz, Moll, & Mehan, 1986) have

refuted the notion that poor, minority families don't have value support for literacy development. According to Vgostky, these families which are mostly marginalized see literacy as key to mobility; to changing their status and preventing their children from suffering as they did.

2.5 Institutional/ school-Based Factors and Grade-Level Reading Proficiency

This section discusses institutional /home-based factors that influence grade-level reading proficiency among the HI learners. They include Early Childhood Education and Development, the language of instruction, the classroom literacy environment and the pedagogy used by teachers to teach reading.

2.5.1 Early Childhood Education and Development

Early childhood Education and Development (ECDE) is a school-based factor that contributes to grade-level reading proficiency. Various studies have analyzed the relative contributions ECDE to children's language and literacy development. (Koonce, 2012) found that ECDE classrooms have got the power to contribute to children's language and literacy development. Scaffolding techniques are especially effective with children whose home language or culture is different from others in the classroom and can be used to create a language learning environment that reduces frustration and increases motivation to take 'safe risks' (Skutnabb-Kangas, 2000). Children who are hearing naturally acquire language from parent and care-givers but HI children often depend on teachers and other professionals, in addition to their parents and care-givers to acquire language. Teachers in ECDE classes act as language models to the young HI children (Freeman, n.d.). The conclusion I arrive at is that, although activities in the home are important contributions to literacy development, home environments that are strong in their support for language and literacy do not counteract the negative effects of ECDE centres that were weak. Excellent ECDE makes a difference in promoting language and literacy development for children especially those who come from homes with low support (Githinji & Kanga, 2011). Subsequently, access to specific kinds of language and literacy experiences in pre-schools influence a child's reading to grade-level proficiency.

2.5.2 Language of Instruction

The Language of Instruction requires attention in this study because it is a crucial school-based factor that influences grade-reading proficiency among the HI learners. Many hearing impaired students begin school lacking fluency in either a signed or spoken language (Singleton, Morgan, Schick, Marschark, & Spencer, 2006). This is

because most them, are connected to generations of hearing relatives when they are born. (Erting & Kuntze, (2008) add that, by the virtue of their hearing loss and the resulting experiences they will have through-out their lives, they are also part of the hearing impaired world. Subsequently, they do not develop any adequate language they can take to school. On the other hand, appropriate language-in education (LiE) policies enable teachers to instruct in children in a language they speak most at home and understand well enough to learn academic content (Alemayehu Hailu Gebre, 2009). Under a policy of bilingual education, for example, lower primary school pupils are supposed to be instructed in the language of the catchment area or mother-language in Kenya (Bunyi, 2006). Hence, the Ministry of Education has recommended the use of Kenya Sign Language (KSL) as the LiE for all the HI learners but this is a language that is not known in their homes and the learners are not fluent because this is a language they learn in school. These learners are faced with a double challenge of learning a new language which is supposed to be their mother language as well English as a second language (ESL).

Cummins & Corson (1997) propose the interdependence theory to explain the positive transfer of literacy skills from first language (L1) to second language (L2). He argues that the level of literacy competence in L2 that a child attains is partially a function of the level of competence the child has in L1 at the time when intensive L2 exposure begins. Freel (2011) hypothesized a significant positive relationship between measures of Sign language proficiency and measures of reading skills, establishing that any Sign Language as a complete first language is related to reading skills in English as a second language. In addition, there is an extensive database indicating that the literacy outcomes of learners who are hearing impaired are related to their underlying Sign Language skills (Laderberg, Schick and Spencer 2012). This means that schools need to provide environments that can promote language development as the social learning theory advocates. Similarly, Skutnabb-kangas (1981), comments on the amount of stress experienced by teachers and pupils working through the medium of unfamiliar language as it happens in most classrooms. (Ngwaru, 2011b) further adds that such a language has a major impact on classroom interaction. Teaching and learning in such a classroom is dominated by routines and choral responses which Chick (1996) and Hornberger and Chick (2001), described as 'safe talk'.

2.5.3 Classroom Literacy Environment

The classroom literacy environment is very important to any child who is hearing impaired, regardless of the communication modality being used. Under this topic, I look at classroom environment to establish how HI learners are affected differently from their hearing counterparts and what might need to be done by schools, In case studies that examined both home and school contexts, Roberts (1994) contends that it is school rather than home factors that shape differences in attitudes and abilities relating to literacy Considerations in the classroom should include the seating arrangement during structured time which should be semi-circular. This allows all the children to more readily see signs or lip read the person who is communicating with them at any given time because this will improve classroom interaction In addition, classroom environment should be acoustically treated so HI learners can more readily access others communication (Karchmer, n.d.)

2.5.4 Pedagogy

It is important to look at pedagogy in order to find out how it influences grade-level reading proficiency among the HI learners. Pedagogy is the teaching and learning relationship that creates potential for building learning conditions leading to full and equitable social participation (Street, 2001). Traditionally, Literacy is the process and context of learning to read and write which is perceived as specific cognitive abilities or sets of skills (Lankshear, 1997). Currently research acknowledges that literacy is social-culturally bound and every society has literacy practices that relate to reading and writing (Street, 2001). Cummins and Sayers (1995: 75) corroborate this view by adding that ‘prior experiences provide the foundation for interpreting new information’. No learner is a blank slate. Asgharzadeh (2006) notes that, the post-colonial educational policies and practices (curriculum, text and pedagogy) in Africa fail to ‘speak’ adequately to the variety of human experiences. They often exclude cultural resources and children’s funds of knowledge from classroom work. Hearing impaired learners have their social cultural experiences and funds of knowledge which should be acknowledged in pedagogy. These are the experiences that form the basis for reading development.

2.6 Conclusion

In the above chapter, I have reviewed literature which relates to my topic; factors influencing grade-level proficiency among the hearing impaired learners. The focus of the review revolved around learner-based factors, home-based factors and school-

based faced that influence grade-level reading proficiency. The literature has highlighted on what other scholars have suggested as influencing grade-level proficiency among the hearing impaired learners at home, school and within the learner. Suggestions made by different authors show that the hearing impaired learners can read at grade-level proficiency but there are factors that need to be considered. The multiliteracies theory and the Socio-cultural have been advanced to frame my study. These theories acknowledge that hearing impaired learners are visual learners and to compensate for their hearing loss, other modes of meaning are needed. This means that there is need for a literacy orientation for the HI learners that go beyond alphabetic communication, and home environments should be enriched with interactions that enhance literacy development so that reading to grade-level proficiency is enhanced

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, I present the methodology of the topic; Exploring factors influencing grade-level reading proficiency among the hearing impaired learners. The topic has the main research question;

To what extent the HI learners are reading to grade level proficiency which is being investigated through the subsidiary questions;

What learner-based factors influence grade level reading proficiency among the HI learners.

Which home-based factors influence grade level reading proficiency among the HI learners

What school-based factors influence grade level reading proficiency among the HI learners.

These research questions justify the data generation process and are the foundation upon which the choice of my methodology rests.

The chapter begins with a brief description of the theoretical paradigm that was used to guide my procedures and therefore justify my methodology. Clarification of the research approach, research design and the rationale for adopting them within the interpretive theoretical paradigm has been given. The chapter further describes the research site and the selection of research participants. In addition, methods for data collection namely; observations, interviews, and document analysis have been discussed including how data was transcribed, coded and categorized leading to data analysis. Finally, the chapter highlights the steps followed in ensuring validity and trustworthiness in the context of ethical considerations.

3.1 Theoretical paradigms

A theoretical paradigm is ‘a basic set of beliefs or assumptions adopted by a scientific community which define the nature of the world and the place of individuals within it’ (Kuhn, 1962). Eds (Morgan, 1980) It sets the overarching context for any research project. In relation to qualitative work, this ‘basic belief’ system or world view guides investigation. Theoretical paradigms can therefore be referred to as lenses that guide the underlying belief system of the researcher that justifies the choice of

methodology to be used in the research process. Embedded in the research paradigms are different ontologies, epistemologies and methods. Ontology assumptions refer to ways of constructing reality, what constitutes reality and how existence can be understood (Denzin, 2009). In tandem with my study, I sought to find out factors in the school, home or within the learner that influence grade-level reading proficiency. On the other hand epistemology, in qualitative research can be seen as ‘the possible ways of gaining knowledge of social reality’ whatever it is understood to be (Sarantakos, 2012). That is why Interpretivism was deemed necessary for my study.

3.2 Interpretivism

Interpretivism is described as understanding the social context of the phenomenon and the process whereby the phenomenon influences and is influenced by the social context (Bevir & Rhodes, 2010). It considers that “the social world” can only be understood from the point of individuals who are part of the research. In keeping with the interpretive tradition, I sought to understand the hearing impaired learners interpretation of their own reading bearing in mind they were influenced by their contexts which they also categorically influenced (Cohen et al., 2007a). It was within the interpretivist paradigm that all participants including me as the researcher brought out our own unique interpretation of the world to the research context. Similarly, I got the opportunity to be open to the attitudes and values of the participants and to adopt a research design which embraced the idea of multiple realities including loosely structured interviews, classroom observation and document analysis as (Creswell & Creswell, 2013) contends.

3.3 Research Approach

A research approach involves plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collections and analysis (Creswell, 2009). In this study, I adopted the qualitative approach to plan how, where and when I would investigate the factors influencing grade-level reading proficiency among the hearing impaired learners.

3.4 Qualitative approach

Qualitative approach involves “an interpretive, naturalistic approach to the world (Creswell & Creswell, 2013). Similarly, Curry, Nembhard, & Bradley (2009) agree that, qualitative approach seeks to discover and understand a phenomena, process or

world views of the people involved in their natural context”. A common and clear factor discerned from these definitions is that qualitative research starts from the position that the knowledge of reality (epistemology), including the domain of human action, is a social construction by human actors in their natural settings.

Qualitative researchers assumption that qualitative research is grounded in a constructivist or subjectivist epistemology (Cohen, Manion, & Morrison, 2007b); (Denzin & Lincoln, 2000). (McNiff, 2013) describe the concept of ‘insider research’ in a positive light and explains the potential for deeper understanding when the researcher has a varied array of background knowledge regarding the field of study. Since I work as a special educator teaching hearing impaired learners in the hearing impaired school being studied in this research, I was indeed an ‘insider researcher’. I maintained a close proximity that enabled me to keep my interaction with participants at varying degrees, observing, questioning, and sometimes actually living as one of those to be studied. The assumption is that reality should be interpreted through the meaning that research participants give to their life world.

The research questions in qualitative studies often stress how social experience is created and given meaning. In adopting the qualitative approach, I was able to enter into the schools so conceived as the natural settings for the lived experiences of the hearing impaired learners and their teachers. I therefore studied them by observing their environment, interacting with them and asking them questions relating to their literacy development and reading to grade-level proficiency as a literacy practice. This was done to make sense of, to interpret, get their views, and opinions about their practices, that is, how reading is taught and the factors that influence reading at grade-level proficiency.

The qualitative approach was deemed suitable for this study again because it concerns itself with providing rich descriptions that can occur without the intervention of an experiment or any contrived treatment (O’Reilly & Kiyimba 2015; Gay, Mills, & Airasian, 2006). They have the advantages of flexibility, in-depth analysis, and the potential to observe a variety of aspects of a social situation (Babbie, 1986). This study had to be multi –method involving the use of interviews document, analysis and classroom observations in order to get a deep interpretation data that informs the factors influencing grade-level reading proficiency among the hearing impaired

learners to produce rich holistic understanding of contextual, and generally unstructured, non-numeric data (McBurney & White, 2009; Denzin & Lincoln, 2005). It had to engage in conversations with learners and teachers in natural classrooms and in the school, as well parents of hearing impaired learners, attempting to make sense of or interpret exactly how grade- level reading proficiency was influenced by learner, school and home- based factors.

3.5 Research design

A research design is a structure and strategy of investigation which is used to answer research questions or problems (Gay, Mills, & Airasian, 2006). Maree (2012:70) defines a research design as a plan or strategy used by the researcher for collecting, analyzing and interpreting the data in order to answer the research questions. A design typically includes how data is to be collected, what instruments will be employed, how the instruments will be used and the intended means for analyzing data collected. My study sought to answer my research questions which were linked to the topic-factors influencing grade-level reading proficiency among the hearing impaired learners- by collecting data using research instruments like interviews, classroom observation and document analysis. The tools for collecting this data were tape recorders and note books. The two main functions a research design serves are identification of procedures and logistical arrangements for doing a study and emphasizing the importance of quality in these procedures to ensure their validity, objectivity and accuracy (Thomas, 2016). This study lends itself to qualitative intrinsic Case study design which I discuss briefly as below.

3.6 Intrinsic case study design

A number of researchers define case study as having various descriptions such as: where investigators explore a real life, in natural settings, over time and through detailed data collection involving multiple sources of information while, Merriam (1998; Creswell & Creswell, 2013; Simons, 2009). This study employs intrinsic case study which Robert Stake (2000) cited in Silverman, (2010:139) explains that “the case is of interest in all its particularity and ordinariness” to a researcher. In the intrinsic case study, Stake, says no attempt is made to generalize beyond the single case or even to build theories. I used intrinsic case study design because I am a specialist teacher for the hearing impaired learners, living among them and am interested in reading at grade-level proficiency among this particular group of

learners. Although intrinsic case study is not generalizable, the findings can be used to inform various stake holders on the need to include this seemingly marginalized group of learners by having sign language being known by every other child in school.

The multiple data collection methods I used were; observations, interviews, and documents over a period of 5 weeks in order to exhaustively answer my research questions. Stake (2010) observes that, case studies provide comprehensive information which makes data collection exhaustive and reliable.

After reviewing the data, and making sense of it, I was able to organize it into categories and themes that across all data sources. These are the themes I used to write and discuss my findings in accordance with Gay, Mills, & Airasian (2006), who say that the final written report or representation includes the voices of the participants, the reflexivity of the researcher, a complex description and interpretation of the problem. This said focus, now shifts to how I selected my site and research participants.

3.7 Sample and selection procedure

3.7.1 Research site

A research site in this study is the location where the study took place. As (Creswell & Creswell, 2013) posits, qualitative study involves the study of a research site. I used purposive sampling to select the site which was a public boarding primary school in Kiambu County, Central Province, Kenya. The school was selected because it is a well-established public primary school for the hearing impaired learners only and the only one of its kind in Kiambu County therefore, this is where I could find enough learners with a variety of characteristics that I needed in order to conduct my study.

3.7.2 School profile

Riara (pseudonym) School for the Deaf is a well-established, mixed public primary school.



Figure 1: Riara primary school

Figure 1 shows the front view of the upper block. Note that some classes at the far end which initially belonged to the primary school have been occupied by the secondary school.

The school enrolment

Riara* School for the Deaf has an enrolment of 245 learners. There are 125 males and 120 females. The school is single streamed apart from class 8 which is a double stream. There are eleven classes from nursery to class 8.

Table 2 Enrolments per class at Riara School

Gender	Nursery	Infant	Total	1	2	3	4	5	6	7	8	Total
Male	12	10	22	18	6	10	10	17	11	9	22	125
Female	10	12	22	8	14	14	7	11	18	9	17	120
Total	22	22	44	26	20	24	17	28	29	18	39	245
Number of streams	1	1	2	1	1	1	1	1	1	1	2	

Table 2 shows enrolment per class.

(Source: Deputy head teacher interview 20/09/2016)

The Kenya government through the Ministry of Education (MoE) guidelines dictates that that a class for the hearing impaired learners should have a maximum of twelve (12) learners (MoE,2003).

3.3.3 Research participants

A research participant or study participant is a person who participates in human research by giving information or by being the target of observation by researchers (Cohen et al., 2007b). McNiff (2002) as cited in Cohen (2007) stresses the importance of careful and purposeful selection of participants in a case study. This influenced the choice of participants who were purposively chosen to answer my research questions using various data collection tools. My research participants included learners, administrators, teachers of English and parents.

Learners

The total number of learners who participated in my study was 30. 10 were from class one, ten from class 4 and 10 from class 8. The purpose of selecting these three classes was that these are the critical stages in literacy development. In class one, learners are supposed to display emergent literacy for example, pre-manual skills, and non-manual features (Daniels, 2000). Class 4 is a critical stage where learners are expected to have learnt how to read so that they can start reading to learn (Apel, 2011). In class eight learners are supposed to have learnt how to critically analyze texts. I selected 10 learners from each of these classes because I wanted a detailed study of these learners and it was not possible to take a whole class of above 20 learners. So I zoomed in to ten. To get the representation of the whole class I used the end of term examination results to get class mean. Then I got 5 learners above that mean and 5 learners below that mean. This was purposively done because the children around the mean are the ones who represent the pedagogies used by the teachers. The extreme ends reflect more of the learner's traits than on the classroom pedagogies.

Table 3 Number and gender of the learners at Riara School

Gender	Number
Male	17
Female	13

Total 30

Table 3 shows that total number of females was 13 and the total number of males 17. All the participating learners were 30.

Administrators

My study included two administrators who were purposively selected as my key informants.

Teachers of English

I had 6 teachers of English who taught from pre-school, to class eight.

Table 4: English Teachers at Riara School (Age, Gender, Qualifications and Experience)

Gender	Age (yrs)	Level of education	Teaching experience in years	Teaching experience with the HI
Male	46	Graduate	24	14
Female	47	Post graduate	22	8
Female	30	Diploma	5	5
Female	46	Graduate	22	6
Female	40	Graduate	10	7
Female	42	Graduate	20	8

Table 4 shows the teachers' age, gender qualification and experience.

Among the teachers of English, 5 are females and one is male. Their ages range between 30- 50 years. All of them are graduates in the area of special education and they are referred to as specialist teachers.

Parents

The parents of learners in these classes were conveniently selected on the visiting day. 6 parents were selected to obtain data related to my study; home-based factors influencing grade-level reading proficiency.

Table 5: Number and gender of parents

Number	Gender
Male	1
Female	5
Total	6

3.9 Data collection methods and tools

As earlier indicated case studies are studies of events within their real life contexts using properly designed field procedures (Yin, 2009). In addition, (Creswell & Creswell, 2013) observation “data collection is a series of interrelated activities aimed at gathering information in order to answer research questions in a study”. The data collection methods I used were interviews, observations and document analysis using tools like audio recorders and note books. The interviews included one on one interviews, focus group discussions and the observations to investigate factors influencing grade-level reading proficiency as guided by my research questions. This is because a in a case study, a researcher uses multiple methods of data collection in order to explore the phenomenon under study and gain an in-depth understanding of the same (Mills, Durepos, & Wieber (2010), (Cohen, Manion, & Morrison, 2007). A major strength of a case study data collection is the opportunity to use many sources of evidence (triangulation) aimed at corroborating the same fact or phenomenon. Moving on to data collection methods, I start my discussion with interviews.

3.9.1 Interviews

An interview is a data collection method in a qualitative case study design. It involves a conversation between two or more people with the purpose of obtaining research relevant information (Cohen, Manion, & Morrison, 2007). Interviews are the most important sources of case study evidence because most case studies are about human affairs or follow behavioral events and evidence is provided by interviews. The types

of interviews I conducted were one on one interviews, Focus Group Discussions (FGDs) and a group interview.

3.9.2 One on one interview

I conducted one-on-one interviews using a loosely structured interview guide with the head- teacher and the deputy head-teacher (see appendix A) separately to investigate factors influencing grade-level reading proficiency among the HI as guided by my research questions. I used a voice recorder as the data collection tool. The two administrators were purposively selected in line with case study design where the researcher hand picks the cases to be incorporated in the sample on the basis of the researcher's judgment of the sample as having particular qualities of interest to the study (Preissle and Le Compte, 1984). The administrators were my key informants because they are knowledgeable about the operations and the activities of school and can provide leads to other information. They also provide insights into a matter and can initiate access to corroboratory or contrary sources of evidence. A one on one interview facilitated openness of the respondent in matters which they would otherwise shy away or reserve from revealing in a group (Cohen et al., 2007a). I was therefore able to get information that would not have been revealed in a group. In addition this interview allowed me to 'enter the participant's perspective' and learn about things that cannot be directly observed (Yin, 2009). Since the interviews are interpretive, the participants were free to expound on their perspectives and offer clarifications where necessary. The interpretivist approach maintains that all human beings are engaged in the process of making sense of their worlds and continuously interpret, create, give meaning to and rationalize their daily activities (De Vos 2012). Data was collected using a tape-recorder and the audio files immediately transcribed.

3.9.3 Focus Group Discussions (FGDs)

I conducted two FGDs; one with the teachers of English (see appendix B) and the other one with parents of hearing impaired children. I used a voice recorder as a data collection tool. FGDs were conducted with small groups of participants of between six to eight members who shared common characteristic central to the topic of interest. Consequently, different perspectives between groups came out uncovering the factors influencing grade-level reading proficiency among the hearing impaired learners. The Groups should ideally be exclusively made of either men or women to enhance openness of informants in matters they would consider sensitive to the other gender but this was not possible in my FGDs.

The aim of FGD was to reach many participants within a short period of time (Cohen, 2007) as time to collect data was also limited. In addition, FGD equally served the purpose of providing a platform for expressing innermost feelings for those who could not do it individually. Therefore, the group interaction served as a catalyst to generate unique insights into understanding shared experiences and social norms (Curry, Nembhard and Bradley, 2009). Hearing impairment is a silent thief and especially parents would rather not talk about it publicly because of the stigma associated with disability. For the FGD served as forum for expressing their concerns and feelings.

3.9.4 Group Interview

I used group interviews to collect data from the HI learners using a loosely structured group interview guide. I recorded the data collected on a field note journal. Since I am knowledgeable in sign language I did not need the services of an interpreter or a teacher. A group interview is useful in interviewing learners because it encourages interaction between groups instead of simply responding to an adult's question. In addition, it is less intimidating for learners than individual interviews (Cohen et al., 2007a). Halai and William (2011) suggest that power and status dynamics is heavily implicated when interviewing children. Learners got a chance to challenge each other as the discussion moved backward and forwards in a way that may have not happened on one to one interview or focus group discussion.

3.9.5 Classroom observation

Observation in qualitative research is the act of noting a phenomenon in the field setting, through the five senses of the observer, often with an instrument and recording it for scientific purposes (Angrosino, 2007). A case study takes place in a natural setting creating opportunity for direct observation. I was an insider of the group under study, watching and taking field notes by directly being involvement with the people or activity. I used an observation schedule (see appendix C) to collect data on the physical learning environment, interactions in the classroom, instructional strategies and resources used during reading. Observational information is helpful in providing additional information about the topic being studied. During observation, I took photographs at the case study site to help me convey important characteristics to outside observers (O'Reilly and Kiyimba, 2015).

3.9.6 Document Analysis

(Arthur, 2012) briefly defines a document as a record of event or process which may be produced by individuals or groups and take many different forms. It is a source of evidence most commonly used in doing case studies. I used documentation to corroborate and augment evidence from other data sources (Creswell, 2009a). In addition, document analysis is a very efficacious methodology because, when people plan, hold meetings, children write, teacher marks, they are doing it in no relation to a study. This chimes well with McBurney & White (2009) observation that document analysis uses documents previously produced by others, rather than by the researcher or the research process. I analyzed documents which included case history files, end of term examination results among others. I obtained data that further augmented my other data sources thus ensuring validity and reliability of the findings

3.10 Data analysis and interpretation

Data analysis is the process of organizing data in ways that allow a researcher to see patterns, identifying themes, discovering relationships, developing expectations by making sense of data in the transcript or field notes (Henn, Weinstein, Foard, & Henn, 2009). It involves making sense out of data collected by considering the participants' definitions of the situation, noting the patterns, themes, categories and regularities (Creswell, 2009; Cohen, Manion, & Morrison, 2013, 537). Data analysis was done simultaneously with data collection until the final report was written.

I began data analysis as soon as I began collecting data as guided by data analysis procedures suggested by (O'Reilly & Kiyimba, 2015). Data collected through pictures, audio recordings and observations was reduced to codes and categories since qualitative research uniquely deals with words rather than numbers. I transcribed all voice files into word files, typed the sign language interview, field notes from observations made in the various classes, and summarized the data I got from documents thereby giving a thick description of a holistic picture in a naturalistic study (Yin, 2009). The interviews and observations described attitudes, perceptions and perspectives, assumptions or judgements of individuals or groups as guided by my research questions regarding the extent to which the HI learners were reading to grade-level proficiency and the factors influencing reading through coding and categorizing.

Coding is the process of organising the materials into chunks or segments of text in order to develop a general meaning of each segment (Creswell, 2009, 227). The

process of coding took the form of identifying and labelling similar messages from the interviewees or observations in relation to the research questions (see appendix G). It was a number of these codes that communicated an identifiable message relating to an aspect or aspects of my research questions that constituted what I classified as a theme. Some of the themes cut across all the research questions, therefore they could not be placed under learner, home or school based factors. The themes included: Disability, Language of communication, Home literacy environment, Large class sizes, Pedagogy and Resources Financial resources in the school. These themes became the units of the critical mass of analysis for my.

3.11 Trustworthiness

(Mills, 2010) defines trustworthiness as the border notion of truth. In order to ensure trustworthiness, I sought the advice of my supervisor as I made my data collection tools which I piloted in a HI school during the practicum period in August 2016, before I embarked on my actual study. I used multiple data sources such as interviews, observations and document analysis which increased trustworthiness allowing for triangulation and corroboration of information and removing bias. I also repeated observations of similar actions in my study site in order to verify the information I got. In addition, I took photographs to confirm the information I had gathered. I maintained rigour throughout the study and recorded data as accurately as possible especially by making write-ups after every field (Gay et al., 2006) in order to ensure accuracy. Additionally I gave the transcribed data to the specific participants for member checking to ascertain the correctness of the data for credibility and accuracy or validity defines validity as an estimate of the extent to which the data measure what is expected to measured.

3.12 Ethical considerations

Ethical considerations involved first, getting clearance from the Agha Khan University Ethical Review Committee (ERC) (see appendix G). In the context of my study which was Kenya, I applied for a research permit from the National Commission for Science, Technology and Innovation (NACOSTI) (see appendix H). After getting clearance from NACOSTI I was referred to the County Commissioner and County Education Office to get permission to interview government officers (teachers) and access the study site. I also sought access negotiation at the institution.

At the institution, I negotiated and obtained participants' consent (see appendix I) before undertaking any interview, taking photographs or videos as(Halai,

2006) observes. The young primary children signed assent forms (see appendix L) as the head teacher oversaw the activity. I assured my participants of confidentiality and protection from harm as (Creswell, 2009) observes. Again I reminded the participants that they should not be coerced into participation in the study and that they had the right to withdraw from the research at any time during the study as deemed necessary.

Anonymity of the study site was maintained by use of a pseudonym. The data collected was kept under lock and key for security and those in soft copies were secured with a password. Finally, I ensured reciprocity by promising to share a summary of the findings with the school even if it meant after the study because I was left with the school contact.

3.13 Conclusion

This chapter presented a detailed methodology of my topic; factors influencing grade-level reading proficiency among the hearing impaired learners. The chapter has described the theoretical paradigm that guided my procedures in order to justify my methodology. The research approach, research design and the rationale for adopting them within the interpretive theoretical paradigm have been given. The chapter further described the research site and the selection of research participants. In addition, methods for data collection namely; observations, interviews, and document analysis were discussed, including how data was transcribed, coded and categorized leading to data analysis. Finally, the chapter has highlighted the steps followed in ensuring validity and trustworthiness in the context of ethical considerations.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.0 Introduction

In this chapter, I present and discuss findings on the research topic “Factors influencing grade-level reading proficiency among the hearing impaired learners. The main research question of the study was;

What extent are the HI learners reading or not reading to grade-level proficiency?

This was explored through the subsidiary questions;

What learner-based factors influence grade-level reading proficiency among the HI learners?

What school-based factors influence grade-level reading proficiency among the HI learners?

Which home-based characteristics influence grade-reading proficiency among the HI learners?

The findings and discussion are based on the themes that emerged from the coding of the transcriptions made of the voice and observation files created in the field. Data was collected using multiple collection methods as described in the Methodology Chapter 3. The process of coding took the form of identifying and labelling similar messages from the interviewees or observations in relation to the research questions. It was a number of these codes that communicated an identifiable message relating to an aspect or aspects of my research questions that constituted what I classified as a theme. These themes became the units of the critical mass of analysis for my study. The themes included: Language of communication, Disability, Home literacy environment, Financial resources, Large classes, Pedagogy and Resources in the school.

4.1 Overview of the themes

The themes that emerged in this process seemed to suggest that, meeting the communication needs of hearing impaired learners is a big challenge at home and school. The hearing impaired learners use sign language but because of the minimalistic language development opportunities at home, they transit to school having not developed any language modality, whether signed or written. The teachers on the other lack fluency in sign language which complicates the opportunity for

literacy development. Disability emerged as a barrier to literacy development. Hearing impairment is a disability which deprives the hearing impaired learners the ability to learn an oral language which is used by their hearing age peers to match with printed words. The home literacy environment of hearing impaired children does not support literacy development. Parents are deemed to be the first teachers of children and yet the homes lack the direct parent-child interactions around literacy tasks denying these children the opportunity for literacy development. Parents of hearing impaired children in this study are mostly low income earners. It emerged that financial resources was an obstacle to literacy development because it determined how these parents dealt with direct costs associated with education for example school fees. This being a boarding school the parents were unable to sustain their children in schools. Large classrooms were making it more difficult for the hearing impaired to read to grade-level proficiency possibly because, under normal circumstances, these children were supposed to be in a class of 12 but now their classes were between 17 and 28 which meant they did not get individual support from their teachers. The pedagogies used by the teachers were not adapted to suit the literacy development needs of the of HI learners as the learners' 'funds of knowledge' were not acknowledged in pedagogy. The hearing impaired learners lacked resources which enhanced their opportunities for literacy development leading to more possibilities of reading at grade-level proficiency. These included resources inside and outside classroom. I now present the findings that led to the development of the mentioned themes.

4.2 Themes

4.2.1 Language used for communication

The theme on the language used for communication revealed that the hearing impaired learners lacked fluency in any language modality. They had limited signing skills and they could not use speech which led to minimal classroom interactions which was evident during classroom observation. They only repeated what the teacher had signed. The teachers confirmed that learners never understood concepts because they had no language they could use to understand concepts when they come to school and that they had to be taught signs in order to progress in a hearing impaired school. Indeed, my observation on the school visiting day was that, when parents visited their children they brought them nice food but there was hardly any interaction going on. The learners sat and ate in silence and some even faced a different direction

from the parents. After the children had finished eating the parents packed their dishes and went home. For those children who tried to communicate with their parent with no success a teacher or the school interpreter was called to interpret. This gap in communication was similarly confirmed when one teacher said;

There is a big gap in communication with the child and the parents. They have to wait until the schools resume and we have to come and start solving issues that they would have dealt with over the holiday at home because they do not know signs (Teachers of English, FGD, 20/09/2016).

The HI teachers English are all hearing and despite them being specialist teachers (see table 4), they have difficulties using sign language to communicate with the learners even during classroom instruction. From classroom observation, classroom interactions were minimal and were dominated by speech where sign language became difficult to use. Similarly, the deputy head teacher acknowledged that teachers lacked fluency in sign language from the excerpt below;

Our main challenge in the school is the communication barrier and this one is mainly from the teachers. In such a school, we use sign language as the medium of instruction with the learners when you are teaching, when giving instruction, when you are advising, when you're doing anything; when the communication becomes a barrier, I think we don't relay the information that we would want to relay. This one has become a very big challenge (Deputy head-teacher interview (19/09/2016)).

These findings were in line with one learner who said that the teachers were weak in sign language because they did a lot of talking and very little signing. She added that the learners did not understand what the teachers taught because they wrote a lot on the black board without explaining what they had written and the learners just copied.

4.2.2 Disability

Disability refers to any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being (Pfeiffer, 1998). As indicated in the methodology chapter, the school I was dealing with is a hearing impaired school (see figure1). The learners are placed in this school through referrals from Educational Assessment and Resource Centres (EARCs) which are found in every sub-county in Kenya. The responsibility of the EARCs is to conduct assessment of children with different types of disabilities and place them in the most appropriate

schools (Sessional paper 5, 2009). The learners are therefore placed in a hearing impaired school with Audiometric assessment files showing their degrees of hearing loss from which form part of their case histories. The school also does audiometric assessment to confirm the learners' degrees of hearing loss. From these case histories I was able to get the degrees of hearing loss for my study participants.

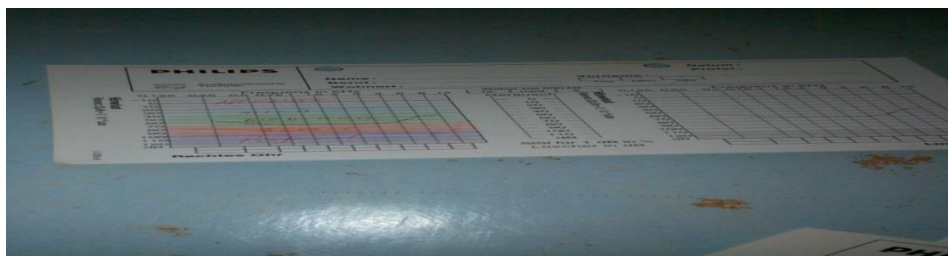


Figure 2: Audiometric assessment result sheet

Source (American Speech-Language-Hearing Association; ASHA, 2006)

Table 6: Learners' degrees of hearing loss

Degree of hearing loss	Degree of hearing threshold in Db	Number of learners
Mild	24-40 Db	0
Moderate	41-55 Db	5
Severe	56-70 dB	8
Profound	70 dB and above	17
Total		30

Table 6 shows the different degrees of hearing loss and the corresponding hearing thresholds of participating learners.

From the document analysis, most of the learners who participated in the study were profoundly hearing impaired. This means they cannot benefit from speech however loud it is made. In addition, besides hearing impairment there were learners with additional disabilities. The number of learners with additional disability other than HI was determined and results were presented in Figure 3 below.

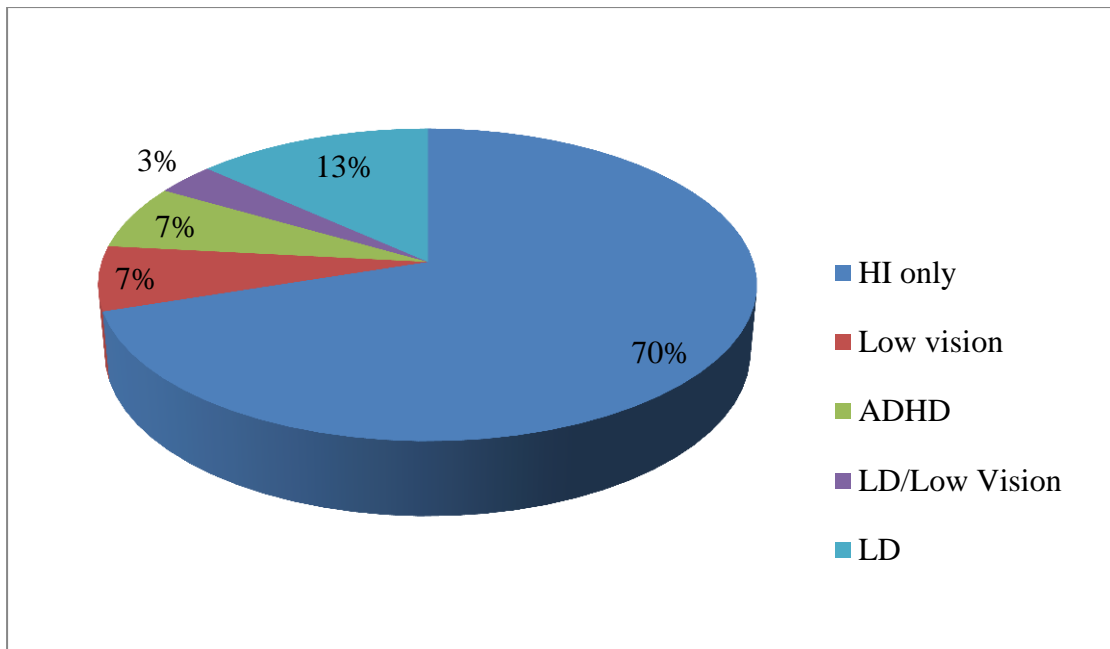


Figure 3: Learners with Additional Disability

Findings represented in Table 3 shows that 13% of the learners had a learning Disability (LD), 7% of the learners had low vision and Attention Deficit and Hyperactive Disorders (ADHD) while those with both LD and low vision were 3%. Cumulatively, 30% of the learners with HI had an additional disability.

Findings obtained from the document relates well with what the deputy head teacher suggested as to why HI learners were not able to read to grade-level proficiency. The learners were said to be slightly slower compared to the level of their classes and in a special school they could not read at their level because hearing impairment was a barrier which is a disability. Hearing impairment was referred to as ‘a silent thief’ that denied the HI the opportunity to hear sounds. She added that without the ability to hear sounds reading became very slow and made the HI learners forget words very fast because they did not have a sound system to unlock their memory. The theme on disability indicated that it was difficult for the hearing impaired learners to read to grade-level proficiency due to their inability to hear. One teacher said;

Learners love reading but there were alot of challenges when it came to reading as compared to the hearing students. Mostly this is because these children have never heard sounds, so words to them are just like symbols because they have never heard the sounds (Teachers of English FGD, 20/09/2016).

On the extent to which the hearing impaired learners were reading to grade-level proficiency, it was reiterated that challenges were mostly related to vocabulary because the words were hard to understand. The passages were also very long compared to their level of understanding. When it came to reading the teachers found that, to a hearing impaired child, every word in the passage was new. They could not recognize any word in the passages. In addition, there were some learners who seemed to be experiencing more difficulties reading to grade level proficiency than others. One teacher said;

Some can read but some children here have additional disability. We have some who even have mental retardation leading to learning disability, and then they are deaf. Others have Cerebral Palsy (CP) while others have low vision in addition to deafness. It is also difficult for them to operate at the same level. You may find somebody who is looking okay cannot read anything (Teachers' of English FGD, 20/09/2016).

Another teacher similarly confirmed that when teaching reading learners keep going out such that by the end of the lesson, half of the class has gone out and so very few grasp concepts from the passage. A parent added that besides her child being hearing impaired she was also very slow and did not grasp concepts fast.

4.2.3 Home literacy environment

Home literacy environment refers to direct parent-child interactions around literacy tasks. Literacy tasks include cooking, washing and story-telling among others. Findings from this theme show that when learners go home during holidays, the parents are not able to interact with them. As to the extent to which there was parental interaction, the deputy head teacher said she always had to solve cases that would have been solved at home (during holidays), when schools opened. This happened because there was no way the parents were able to interact with their children especially the girl-child. Findings further confirmed that parents do not help their children with home-work which has forced teachers not to give homework to learners. The parents were equally neither eager to have their HI children at home when school term ended nor did they come to school to check on their progress during the term. There were parents who brought their children on the first day of the term and came to pick them one or two weeks after the closing date. There were those who even refused to pick their children and they had to stay with the deputy head teacher the whole holiday. Accordingly, one teacher said;

From the day I came to Riara* school for the deaf, I have never seen any parent coming to check on their children's progress from me. When I was teaching lower primary, I invited parents in my class just for them to see how their children are learning. Only three out of 17 came (Teachers of English FGD, 20/09/2016).

These findings chimed well with one learner who said that her parents used speech at home and she had to sit and watch them because she cannot hear. She added that she was not allowed to sign when there were visitors and so she just kept quiet and watched as the visitors together with their parents talked.

4.2.4 Financial Resources

Financial resources in my study, was looked at from the perspective of the annual family income. Findings obtained from this study seemed to suggest that parents of hearing impaired learners are low income earners. These are parents who sold vegetables in the market in order to try and provide basic needs for their HI children who attended boarding schools. Some of the parents relied on well-wishers to provide every basic school necessity including school fees because they lacked any source of income. Some parents brought their children with no basic necessities as one teacher said, "Most parents are poor and do not send these children to school with any writing material. Some bring them with nothing even bathing soap (Interview Deputy head-teacher)" (19/09/2016). These findings were further confirmed by the deputy head teacher who said that school fees was big problem and the school was in arrears. She added that almost 70% of the learners relied on sponsors like churches for their school fees and those whose sponsors failed to pay or those who had no sponsors had to wait at home until they got schools fees. She lamented that, that was a boarding and she could not keep the children if they could not pay school fees because the food they ate was bought using the money they paid as school fees.

Findings also appeared to suggest that parents lacked finances to come and visit their children on visiting days or check on their children's progress. One parents said how much she wished to visit his child in school but he had no money, bearing in mind that, he had other four mouths to feed. On the same vein, one learner said that unlike school where there were lights, at home they used a small paraffin lamp and when the paraffin dried up, they slept denying him any opportunity to read while at home.

4.2.5 Large classrooms

As I indicated in the methodology chapter, this is a well-established school with a big population bearing mind it is the only hearing impaired school in the county. Large classrooms in this study refer to those with Teacher-pupil ratio (TPR) that exceeded 12:1. All special schools for the hearing impaired should have a teacher-pupil ratio of 1; 12 (MoE, 2013). From the document analyzed (see table 2 methodology chapter) all classrooms have got between 17 and 29 learners.



Figure 4: Class one

Figure 4 shows class one which has 23 learners as compared to the recommended 12 learners.

The seating arrangement cannot be discerned, but hearing impaired learners should sit in a U- shape or a horse shoe. They should all face the source of sound for lip-reading and no learner should sit behind the other. After the introduction of Free Primary Education (FPE) MoE, (2003), the number of children rose with some classes having almost 30. as the deputy head teacher confirmed. This theme revealed that, the facilities are stretched and congested because they were initially meant for only 12 learners per class. This has had an impact on time needed for individual learner attention in the classroom and it was very difficult to monitoring each learner is. Similarly, the teachers confirmed that the classrooms had a big number of learners and this made the time allocated for reading inadequate as they tried to reach every learner and yet hearing impaired learners needed specialized attention but with the large number of learners, that was no longer possible. One teacher said;

The time factor is a big challenge when dealing with learners of different abilities. It is difficult to complete a reading lesson within the stipulated time as compared to the hearing learners. Signing takes more time than reading using voice. This because you have to see what every learner is signing. You need to individualize the reading lesson. So you find that you teach very little within the stipulated time which is 35 minutes. Now that one is for the Ministry of Education to implement it is beyond us (Teachers of English FGD, 20/09/2016).

4.2.6 Pedagogy

Pedagogy is the teaching and learning relationship that creates potential for building learning conditions leading to full and equitable social participation (Street, 2001). This theme indicated that the teachers taught the same way they would have taught a hearing class. They acknowledged the essence of utilizing special support mechanisms for these learners in order to help them read at grade-level proficiency but they were constrained by their pedagogies and lack of resources. Class one was taught reading using the 'TUSOME' approach which is "I DO, YOU DO, WE DO". The teacher introduced a new word and then signed it. Then the teacher together with the learners signed the word. Finally, the learners signed alone. The task was repeated for the other five words and from classroom observation teacher scaffolding was not evident as the teacher moved from one word to the next. No attention was paid to learners who had difficulties signing. It was again obvious that the teacher was working against time constraints and classroom interaction was minimal. The other teachers who were not teaching class one or two using the 'TUSOME' approach similarly acknowledged that they taught using the method recommended in the teacher's guide which is also used with hearing schools. One teacher said:

When we teach reading, we follow the same process done in a regular hearing setting whereby you have first to come up with the learner's getting the new words that you expect them to get from story or a paragraph you are reading and they can use them after you have explained to them the meanings of the words. They can use them in sentences from there they will be able to get them and also to get their meaning as they read the story (Teachers' FGD, 20/09/2016).

One teacher in upper primary added that she wrote the story on a manila chart and displayed it for the learners. She said that she did this in order to observe how the learners signed. She reiterated that it was difficult to monitor how learners were signing if they were reading directly from a book. These sentiments conflicted with the learners who said that the teachers only copied stories on the blackboard and they could not sign the story. Feedback to comprehension questions was also written on the blackboard and the learners copied without any explanations being given. Now I turn to resources which similarly seemed to affect literacy pedagogy especially classroom interaction.

4.2.7 Resources in the school

The word “resource” has many facets. In some uses of the word it refers to a source of supply, support or aid that can be readily drawn upon (Crawford, 2005) . Similarly, the word resource refers to the ability to persevere. In my study a resource refers to books, physical demonstration aids, structured organization of materials, libraries and computer labs which can enhance opportunities for literacy development. I will therefore look at resources in the classroom and resources outside classroom.

Classroom resources

The theme of classroom resources revealed that teachers used chalk and blackboard but no additional resources during reading lessons. The hands on activities were not possible because there were no word cards or jigsaws that could be used to teach new words. Classroom observation revealed that class one had charts on the walls but no learning centres. Class 4 and 8 had neither charts nor learning centres.



Figure 5: Class four

Figure 5 shows one wall of class four which has got no charts.

The other walls were also bare. The textbooks were not enough in class 4 and 8 which forced some teachers to write part of the comprehension to be read on the chalkboard. Similar findings seemed to suggest that HI learners needed text-books at the ratio of 1:1 but the books were few. One learner said;

The text books are not enough. We share and sometimes we cannot see the words because we are three. Other textbooks do not have pages and we do not use charts for reading (Learners' Group Interview, 23/09/2016).

And yet, the deputy head teacher confirmed that there was one overhead projector which could be very useful in projecting reading items instead of text books but they do not use it.

Resources outside classroom

I am going look at the library and the computer laboratory

The school library

The school has a well built library but it appeared not to be in use as seen in the photograph below.



Figure 6: The school library

Figure 6 shows the school library which has turned into a store for past examination papers and hair driers.

Findings revealed that the library was rarely used and the learners never went to the library to read or borrow books to read. Classroom timetables had no time slotted for library lesson as the learners said. The materials in the library were obsolete. Learners could go when the “library” is open for cleaning to look at the pictures in the books found there but teachers were never involved in any library activities. Contradictory findings however, revealed that the library was fully operational and that learners borrowed books and sometimes used the library for reading purposes. The deputy head-teacher said;

We have a library in the school, whereby the learners can access library books. They can read and later return them to the library. They can also read in the library (Deputy head-teacher Interview, 19/09/2016).

The computer laboratory

The school has a computer laboratory with computers but the teachers do not use the computer lab or the computers in there.



Figure 7: The school computer laboratory

Figure 7 shows the school computer laboratory with computers which do not seem to be used by the learners.

Findings from this study revealed that the computer laboratory has got enough computers for a class of 20 learners which were in good working condition. There is a computer teacher who teaches computer skills but the subject teachers do not accompany the learners to the computer room when they went there - which was rare. So, the teachers did not know what went on in the computer room because they were not computer literate. However, the deputy head teacher contradicted this findings when she said, “We also have our learners having access to the computer lab whereby they can do some reading from the computers.”

4.3 DISCUSSION OF FINDINGS

This study found out that the biggest problem hindering learners from reading to grade-level proficiency is disability itself which seem to run through all the themes. The learners had significant loses in hearing which, were significant enough to impact upon their spoken language development according to the definition of hearing impairment given by the U.S Department of Education: National Centre for Education (2001). Hearing impairment is a disability and one source of risk of literacy development because it affects the ability to learn spoken language. The development of reading skills requires familiarity with an oral language and understanding the mapping between that language and the printed word (Chamberlain and Mayberry, 2000). That mapping is based on sound and hence the spoken language aids in the reading process. However, the hearing impaired learners are disadvantaged because they lack the ability to deduce the phonemic sound system denying the learners the opportunity to read at grade-level proficiency.

Similarly, 95% of hearing impaired children are born of hearing parents Knors Marschark (2012) which further explains why these children do not develop any language modality. The parents in my study do not know sign language. Hence, was possible that their children did not have a verbal language of their parents neither their own sign language at school entry. The primary challenge in educating these children is meeting their communication needs because the language of communication is a barrier. Under normal circumstances, children are supposed to come to school with a first language which the teachers can draw upon when instructing them during the first years. The situation in my study was compounded by the fact that teachers on the other hand, were not fluent in sign language which is the language of communication and instruction at school. Skutnabb-kangas (1981), comments on the amount of stress experienced by teachers and pupils working through the medium of unfamiliar language- as it happened in the classrooms I observed. Verpoor (2003) further adds that such a language has a major impact on classroom interaction. Teaching and learning in such a classroom is dominated by routines and choral responses which Chick (1996) and Hornberger and Chick (2001), described as 'safe talk'. 'Safe talk is a situation where classroom interaction allows minimal participation without losing face of the students and the teacher. Therefore

students know more or less what to expect and how to behave in class but where there is literally lack of learning. The HI learners had limited sign language capacities as well as their teachers. Many researchers speculate on the impact of teacher-learner interaction and classroom outcomes. Authors such as Andoh-Kumi, (1998), Ejieh (2004) and Wilmo (2003), for instance, conclude that the use of familiar languages in African classrooms both facilitates literacy and helps pupils learn more effectively. Therefore, extended literacy pedagogy for the hearing impaired learners that go beyond alphabetic communication to enhance literacy development so that reading at grade-level proficiency is achieved is needed. Pedagogy which is the teaching and learning relationship that creates potential for building learning conditions leading to full and equitable social participation (Street, 2001), further limited the opportunities for literacy development among the HI learners. The class one teacher used the “TUSOME” language and literacy approach which appeared like a teacher-centred approach with no reference to the learners’ funds of knowledge. ‘Funds of knowledge’ (Moll, 1992), refers to ‘those historically accumulated strategies or bodies of knowledge that are essential to household functioning and well-being (Greenberg, 1989). The teachers said;

“In TUSOME” approach we follow one rule; I DO, WE DO, YOU DO. I sign the word, we sign together with the learners and then the learners sign by themselves”.

From the above excerpt, it is evident that pedagogies are constrained with choral responses where pupils repeat words after the teacher or even sign words boldly often masking poor levels of English reading proficiency. The teachers follow what is stipulated in the teachers’ guide without making any adaptations that suit hearing impaired learners. The learners’ funds of knowledge were not utilized or acknowledged in pedagogy. The teacher are still using what I regarded as traditional literacy pedagogies. Traditionally, Literacy is the process and context of learning to read and write which is perceived as specific cognitive abilities or sets of skills (Lankshear, 1997). The teachers seemed to be using this autonomous model to teach reading. Currently research acknowledges that literacy is social-culturally bound and every society has literacy practices that relate to reading and writing (Street, 2001). Cummins and Sayers (1995: 75) corroborate this view by adding that ‘prior

experiences provide the foundation for interpreting new information'. No learner is a blank slate. Gonzalez (2005) further challenges the status quo by asserting that local knowledge has a legitimate place in formal education. This means that any pedagogy for the hearing impaired learners should acknowledge the learners' socio cultural experiences and funds of knowledge. These are the experiences that form the basis for reading development. Rather than using the knowledge these learners bring to school as the foundation for the development of reading the teachers emphasize on the language and knowledge sanctioned by the school which they lack.

There is need to move from the narrow traditional focus on one dominant language and culture to broader vision which embraces cultural and linguistic diversity which is an aspect of multiliteracies (New London Group, 1996). In the context of a boarding hearing impaired school, where different cultural systems meet, (Lave & Wenger, 1991) points out one culture should not influence the other but culturally diverse values, beliefs, practices and other material resources should be included in the organization of literacy activities that enhance literacy pedagogy. My argument is that these children need opportunities to realize their potential in reading by bringing in their cultures and practices to the classroom in much the same way as their hearing counterparts. The pedagogies should deliberately value children's lives at home, the connection between home and school via literacy tasks and the establishment of a supportive community of learners in order to enhance reading at grade-level. There is need therefore to focus on the homes of HI learners in order to find out the 'cultural capital' Bourdieu (1977) or the funds of knowledge (Moll, 1997) which children bring from home to school. Besides the learners' funds of knowledge, classroom pedagogies are also likely to be affected by classroom sizes. There are differing opinions about the causes of overcrowded classes in special schools some being the introduction of Free Primary Education (FPE)/ more awareness about Special Needs Education (SNE). The reality, however, is that each of these factors have worked to increase class size, and thus affect the quality of literacy instruction in schools. My interpretation is that, learners in these classes were not benefiting from literacy instructions that could promote their reading development. These are learners who should be taught using Individualized Educational Programmes (IEPs), Smith, (1990) because, despite being in one classroom, they were operating at different cognitive levels. The teacher could not possibly attend to them individually because

of time constrains. These views are in line with (Wilson & Herbert, 2006) who observe that teachers in larger class-rooms devote less time to integrated reading and writing tasks which are literacy practices. In addition large classes take a toll on the teacher's ability to manage time, requiring more time to be devoted to instructions for example, how to complete an exercise rather than substantive instruction. Smaller classes allow teachers to engage their students in a differentiated fashion, that is, teachers can cater their instruction in ways that engage individual students and with smaller numbers of students, teachers are able to pay closer attention to all students, thereby holding them accountable for participation, rather than ignoring those that are passive (Blatchford & Mortimore, 1994):(Goldstein & Blatchford, 1998). The seating arrangement could not be discerned (see figure 4). The learners may not benefit from classroom instruction because the recommended seating arrangement is horse shoe so that all learners can face the teacher. The Multiliteracies approach advocates for a literacy pedagogy that suits large classes by supplementing traditional reading skills with multimodal communications, particularly those typical of the new digital media in order to expand the traditional understanding of the function and form of the written word. This means that teachers will require a new metalanguage-language to describe texts in order to articulate the salient characteristics of moving image texts (K. Mills & others, 2011). This resonates well with hearing impaired learners who also have a low attention span but moving images are an interesting way of ensuring they attend to tasks long enough to their completion.

Class sizes also seemed to have a bearing on school resources. The points of contact at which students interact with these resources are where knowledge construction can occur. Resources in the classroom or outside classroom can lead to more opportunities for literacy development and more opportunities must lead to more possibilities of reading at grade-level proficiency. The participating teachers were in agreement that the use of hands-on-activities and teaching resources supported the learners' ability to read. This is in correspondence with (McCombs & Whisler, 1997) who said that adequate use of resources would simplify and demystify abstract concepts for learners of all abilities, making learning stimulating and engaging. Resources like text books were not enough for all learners. The teachers relied on chalk and blackboard as resources. Moreover, the school had a library which was not functional. My interpretation is that, the teachers did not view the library as a

resource for literacy development. The learners and the teachers confirmed that the library was never used but the deputy headteacher said that the library is always used. The head teacher misrepresents reality for no fault of her own but probably because she is under pressure. A library is a form of intervention that enhances reading by providing story books which equip the learners with reading skills and helps them develop the habit of reading various materials. The provision of story books in are KSL (mothertongue for the HI) allows learners to meaningfully engage in stories and enjoy the challenge of new stories. Bearing in mind these are learners who come to school with very limited motherlanguage competencies, stories in motherlanguage will later form a base for the development of reading in English language (Cummins & Corson, 1997) further propose the interdependence theory to explain the positive transfer of literacy skills from first language (L1) to second language (L2). The learners are suppose to see and appreciate reading as a pleasurable activity they can engage in individually thus improving reading. As they participate in choosing the books they want to read they are improving other skills like scanning skills which are pre-requisites for reading. The skills they develop cannot be developed in class. They read their own books and take care of them in a relaxed out of classroom environment.

Similarly, The computer laboratory is a demanding enriching environment which can make good readers (Kinuthia, 2013). Stories can be provided in kenyan Sign Language (KSL), which is their mother language. Through videos with captions of KSL interpreters, stories can be presented to HI learners in lower primary school to enhance their inadequate L1 competencies. Later stories in L2 which is Signed Exact English (SEE) can be introduced gradually. This is because literacy outcomes of learners who are Hearing Impaired are related to their underlying KSL skills as (Mweri, 2016) Laderberg, Schick and Spencer (2012) contends. Hearing impaired learners need additional resources to compensate for their hearing loss. Lack of resources like a variety of communication channels or multimodals like flash cards, visuals like pictures and projectors constrained literacy practices that promote reading development. Written modes of meaning can be complemented by, or replaced by other ways of crossing time and distances such as recordings and transmissions of oral, visual, audio, gestural and other patterns of meaning- the philosophy of total communication as S. Kirk, Gallagher, Coleman, & Anastasiow, (2011) observes. This

means that there was need for extended literacy resources for the hearing impaired learners that went beyond alphabetic communication and inclined towards multimodal communications, particularly those typical of the new digital media in order to expand the traditional understanding of the function and form of the written word.

Subsequently, teachers will require a new metalanguage-language to describe texts- in order to articulate the salient characteristics of emergent genres (Kinuthia, 2013). As suggested by (Handal, Campbell, Cavanagh, Petocz, & Kelly, 2013) teaching resources used consistently offers great support for learners. Technology can be used in the classroom to not only teach children to be computer literate citizens, but also help students succeed beyond traditional chalk and blackboard methods.

Other than resources found in the school, my study acknowledged that families needed financial resources which was an important aspect of literacy development. Family resources determined how parents dealt with the direct costs associated with education, such as fees, books and uniforms. For poor families this is an obstacle to schooling (Huisman & Smits, 2009); Shavit and Blossfeld, 1993). Most parents in my study were low income earners. Despite the government having set aside money for Special Needs Education (SNE) materials that can support literacy (Kinuthia, 2009) that was a boarding school there were expectations like school fees and travel expenses which were not necessary in day schools and subsequently contributed to learners being absent from school. If the learners were frequently absent from school, reading at grade- level is constrained. Home environments lacked the rich literacy environment the school could offer. The homes of these children were similar to those reported in a different geographical environment (Ngwaru, 2010) in an ethnographic study observing that there was no light in most homes immediately after 6 pm, whether candles, paraffin or electrical energy in poor homes. For HI learners, there cannot be communication without lights because they depend on the visual sense for any kind of communication. Therefore, they are doubly disadvantaged on this count. They can neither communicate nor read under these circumstances associated with poverty. These findings seem to suggest that without adequate family resources parents may not afford to take their children to sustainable schooling or match the gap between home and school literacy practices. The intricate web of poverty, leads to conditions under which literacy development cannot hope to be prioritized (Ngwaru & Oluga, 2014) in ways that literacy development can be enhanced. In addition the multiple literacies approach (Auerbach, 1997), stresses the

importance of a match between home literacy practices and school literacy practices. Makin, Jones-Diaz, & McLachlan (2006) add that, children who develop strong language skills in early years, through positive interactions at home and school, create an important foundation for their later achievement in reading. In my study the home literacy environment did not have literacy practices that support reading development. It was unfortunate that the hearing impaired children did not have full access to the language and environmental diversity of their hearing age peers (Knors & Marschark, 2014). Vygotsky (1978) explains that learning is social as parents and care givers, for example, verbally guide children through the Zone of Proximal Development (ZPD). The same case applies to hearing impaired learners whose home literacy environment require to be enriched with such literacy practices because of their minimalistic opportunities at school where teachers again seem to lack fluency in sign language. Parents are regarded as the first teachers of their children and they should be involved in the literacy development of their hearing impaired children. Parents may not realize the importance of home literacy practices that promote children's reading development. The literacy practices include the interactions around the home while, cooking, telling stories washing among, home-work among others but the language barrier greatly reduces the chances of interaction. There is need to sensitize parents on the importance of their involvement and the needs of their children as a strategy for literacy development among children with special needs (Ndurumo & Ndurumo, 2013). Further, the parents seem to have abdicated their role coming checking on the progress of their children in school. This was confirmed by a parent who said "anything that concerns school I leave it to the teachers. I have other things to do. I know the teachers take good care of the children because they the ones who train them".

Lack of parental involvement may also be as a result of stigma associated with disability. This possibly explains why parents of hearing impaired children seem to have problems associating with their HI children denying them opportunities that can support literacy development. They would rather take them to school where they cannot be seen by the society and have them remain there. Possibly, lack of parental involvement denies the HI learners opportunities for early intervention increasing expectations that many HI children will develop literacy abilities to enhance their reading skills (Moeller, 2000). If hearing parents are to influence their child's literacy,

early intervention means that they should try to become fluent in sign language so that they can provide positive interactions around literacy tasks. Parents need also to understand and incorporate the broader habit of using vision rather than sound for comprehending the world. This chimes well with multiliteracies, which advocates for the availability of conventions of meaning in different cultural, social or domain-specific situations as well as multimodality. Parents should not focus on the language they know but can use the gestures and other modes of representation much broader than language alone. By leaving everything in the hands of the teachers minimizes chances for early intervention. And that is why the hearing impaired learners report to school when they are over age as one teacher said;

As you may have observed most of our children in class one are between ages 5- 9 years while others are even older. This means that some of them start attending school at a later age and hence don't attend ECDE which consequently affects their reading (Teachers of English FGD, 20/09/2016).

Document analysed confirmed that hearing impaired children enrolled in class one way above the required age. The age of the learners was obtained from case history files which contains the learners photocopies of their birth certificates and their ages at school entry.

Table 7: Age of the learner at school entry

Age at entry	Frequency	Percentage
5	1	3
6	8	26
7	15	50
8	1	3
9	5	16
Total	30	100

Table 7 shows that most of the pupils join class one later than their hearing counterparts in regular schools. Only three percent of the pupils joined class one at the recommended age of 5 years. 26% of the learners entered school at age 6 while 16% of them started school when they were 9 years old. Therefore home literacy environments for hearing impaired learners are not being responsible enough in providing early literacy opportunities that the hearing impaired need to take advantage of in order to develop reading abilities commensurate to their hearing age peers that match their grade-levels. According to Vygotsky (1978), adults structure activities so that children engage in more complex behaviour than they could do on their own. Literacy development is enhanced by early home literacy practices like interactions around home activities that encourage listening, signing or observing which form a base for reading later development (Whitehead, 2004) even among hearing impaired children.

4.4 conclusion

In this chapter, I presented and discussed the data collected from the research topic “Factors influencing grade-level reading proficiency among the hearing impaired learners”. The chapter further discussed findings based on the themes that emerged from the coding of the transcription made of the voice and observation files created in the field. It was a number of these codes that communicated an identifiable message relating some aspects of my research questions that constituted what I classified as a theme. Among the themes identified, the biggest problem is learners disability itself, a theme that seems to run across all the themes. Disability affects language constraining pedagogies, affecting home literacy environments, the HI learners have to be placed in a boarding school which again has a bearing on financial resources. The themes which included; language of communication, disability, home literacy environment,

financial resources, large classes, pedagogies and resources in the school became the units I used to discuss my study.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.0 Introduction

This is the final chapter of my long journey which summarizes the whole study from the first to the last chapter. I went to a school for the hearing impaired learners trying to find out what factors influenced grade-level reading proficiency among the HI learners. The main research question sought to find, to what extent the HI learners were reading to, or not to, grade-level proficiency. This main question was investigated through subsidiary questions that had a bearing on the learner, home- and school-based factors that influenced grade-level reading proficiency among the hearing impaired learners.

5.1 Summary

The first chapter discussed the background, the context of my study and advanced the research questions that guided the study. The second chapter reviewed the literature that was related to my study as guided by the research questions. Chapter three described the methodology that was employed in the study including a brief description of the theoretical paradigm that was used to guide my procedures and therefore justify my methodology. The study used a qualitative approach and intrinsic case study design as a plan for investigating which learner, home, and school based factors influenced grade level reading proficiency among the HI learners. This chapter further described the research site, the selection of research participants, methods for data collection including how data was transcribed, coded and categorized leading to analysis. In addition the chapter highlighted the steps followed in ensuring validity and trustworthiness in the context of ethical considerations before seeking ethical clearance from URC to go to the field. The process of obtaining a research permit from NACOSTI in order to do a study in Kenya went on well without any difficulties. I was again given clearance to collect data in my County and later in my research site. At the research site, the learners in the study school, were welcoming and was able to obtain the data that I needed from them. On other hand I had difficulties with teachers finding time for a FGD because they always said they were busy. Classroom observation was equally difficult as the teachers kept saying that they were getting ready every now and then. The head-teacher had no time for the interview citing that she was very busy moving in as she had just been transferred to this particular school. She finally said that she was very new in the school and had no information to give.

However, I was able to collect all the data I needed in the field using various data collection methods. Chapter four presented the findings and discussion based on the themes that emerged from the coding of the transcriptions made of the voice and observation files created in the field in relation to the research questions. These are the themes that I used to analyze my study.

5.2 Recommendations

Educationists should take note that hearing impaired children have exceptional needs that cannot be solved by ordinary practices. Therefore the problems identified in this study cannot be dealt with piecemeal. All the stake-holders need to work in order to make literacy development that can enhance grade-level reading proficiency among the HI a reality.

There is need for country wide sensitization about the language needs of HI children because of their disability. Sign language should be used in homes, schools, and all private and public entities in order to include HI children in all aspects of daily life. With the appropriate language of communication right from birth chances for literacy development will be enhanced.

Policies that allow all children to be screened for hearing loss soon after birth should be enforced. This will pave way for early identification and intervention in order to increase the chances of literacy development.

Schools for the hearing impaired learners should ensure that the pedagogies used suit the needs of HI learners. Teacher pedagogies still remain very important in literacy development. What I found out is that that the HI classrooms lacked effective pedagogies. Teachers used the same pedagogies used in hearing schools. For example the deputy head teacher said; “We teach reading using the books used by hearing students. We use those steps used in hearing schools because the books are the same.” Therefore, there needs to be effective pedagogy and children should be involved in the these pedagogies because pedagogy is the teaching and learning relationship that creates potential for building learning conditions leading to full and equitable social participation (Street, 2001).

5.3 Conclusion

In this study I have explored the factors influencing grade-level reading proficiency among the hearing impaired learners; a case of a public primary school in Kiambu County, Kenya. This study has found out that there are real difficulties involved in the literacy development of learners with hearing loss making them achieve very low

reading levels and eventually very low educational outcomes even when some of the things that were thought to be important were available. For example previous studies on education in sub-Saharan Africa, have consistently addressed the questions of teachers, teaching materials, classroom interaction, among other classroom factors, and how they influence literacy outcomes and children achievement (Daley, 2005). But this study has found one that these factors alone do not enhance literacy outcomes in order to make children read to grade-level proficiency among the HI learners. Many of these studies fail to take into account the ecological and socio-cultural conditions of economically disadvantaged communities Heyneman, Farrell, and Sepulveda-Stuardo (1981) that I have included in this study, in order to deepen the understanding and how such factors affect education and literacy development. Factors that I looked at are disability, language of communication, home literacy environment, financial resources, large class sizes, pedagogies and school resources. This study has tries to suggest that disability is the single most important factor that hinder learners from reading to grade-level reading proficiency because it runs through all the themes. Disability hinders learners' access to language of instruction and communication at home and school. Lack of fluency in any language modality among the HI learners affects pedagogy, interactions at home school which is an important factors in literacy development and achievement of learning goals. Without well-developed literacy skills which form the base for reading developments, the HI may not benefit from learning in ways that enable them to participate fully in public and economic life (New London Group, 1996).

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APPENDICES

APPENDIX A

INTERVIEW GUIDE FOR THE HEAD/ DEPUTY HEAD TEACHER

SECTION A

Date:

People Present:

Preamble:

I am Kuria Wanjiru Jennifer from Aga Khan University, Institute for Educational Development, East Africa (AGU, IED, EA). The reason why am talking to you today is because I am engaged in a study seeking to find out factors influencing grade-level reading among the hearing impaired learners. I'm talking with you today to get information from you about which factors influence grade-level reading in the school context. I would like to record our discussion and I will summarize what you've said and integrate it into my final report.

[Interviewee reads the consent form, answers any questions, signs the forms and keeps a copy of form. Turn on the recorder and test it]

1. Kindly introduce yourself .
2. What your total student population?
3. What is the enrollment per class?
4. Where do your students come from locally, nationally, regionally?
5. How many teachers do you have in the school? Are they all trained to teach the hearing impaired learners?
6. Does your school have an ECDE and is the teacher trained for the role?

What do you understand by reading and grade-level reading?

7. Kindly tell me about your years of teaching experience, what you teach and any special training you have?
8. What do you understand by the term grade-level reading?

9. How do you support reading in the school to ensure learners can read at grade-level?

10. What opportunities are in the school that learners can take advantage of in order to enhance reading?

APPENDIX B

INTERVIEW GUIDE FOR THE TEACHERS OF ENGLISH

SECTION A

Date:

People Present: Teachers of English

Preamble:

I am Kuria Wanjiru Jennifer from Aga Khan University, Institute for Educational Development, East Africa (AGU, IED, EA). The reason why am talking to you today is because I am engaged in a study seeking to find out factors influencing grade-level reading among the hearing impaired learners. I'm talking with you today to get information from you about which factors influence grade-level reading in school. I would like to record our discussion and I will summarize what you've said and integrate it into my final report.

[Interviewees read the consent form, answer any questions, sign form and keep a copy of form. Turn on the recorder and test it]

Personal information

1. Kindly introduce yourself.

-Name

-Current class being handled by the teacher.

2. As teachers of English briefly tell me your experiences with teaching HI learners how to read.

3. When teaching a reading lesson, do you have any approach/ method that you follow?/ How do you teach a reading lesson?

4. Are there any consideration that you make as you plan your reading lessons?

5. Which activities do you engage the learners in, that support reading inside and outside class?

6. What opportunities do you avail to the learners that enhance reading?
7. What resources do you use when teaching reading?
8. What challenges do you experience when teaching reading?How have you been able to overcome the challenge

APPENDIX C

OBSERVATION SCHEDULE

Area observed	Focus of observation	Comments Class 1	Comments Class 4.	Comments class 8.	General comment
Classroom	Classroom interaction during English reading lesson. -Reading words				
Classroom	Resources used during reading.				
Classroom	Instructional strategies/ pedagogy.				
Classroom	the seating arrangement				

APPENDIX D

RANDOMLY PICKED CODED TRANSCRIPTIONS

HEADTEACHER

I: When you receive them do they all go to Nursery school even if they are 11 years?

R: Yes. This is because they have no language of communication when they come here. They have to be taught signs so that they can progress in a hearing impaired school.

I: After admitting them who pay their school fees.

R: School fee is a big problem in this school. Most of the parents are very poor. Almost 70% rely on sponsors like churches who pay school fees for their children. Those who cannot pay have to wait until they can pay.

I: Do you have any problem with staff shortage?

R: Yes, because some of the classes we have some children who are multiply handicapped; for example they are deaf and also mentally handicapped others have some multiple disabilities, so we expect to have a bigger number than what we have on the ground. Those who are hearing impaired also need more teachers. It is hard to teach these children. So, the fewer the number learners the more time you have for individualized attention.

I: What is the expected teacher pupil ratio from the government? How many children should teacher trained for the hearing impaired teach?

R: But after the introduction of free education in Kenya (FPE) in 2003 we have a big number children in the schools so our classes have stretched to even some classes having up to almost 40. So the facilities are also congested because they were initially made only for the 12 per class.

I: what opportunities do you have that can support reading?

R: We have a library in the school, whereby the learners can access library books they can read and later return them to the library, we also have our learners having access to the computer lab whereby they can do some reading from the computers and then we also have the reading itself in the classrooms done by the teachers. This is a big

challenge because reading in signs and following the book is challenge; so we need to have more complex instruments like the projectors so that we project the information on the board or on the walls and the learners can read from there.

TEACHERS OF ENGLISH:

As teachers of English briefly tell me about your experience while teaching hearing impaired learners how to read. As compared to the hearing learners.

R1: The hearing impaired learners love reading but there are a lot of challenges when it comes to reading as compared to the hearing students. Mostly this is because these children have never heard sounds so you just introduce words to them and to them these words are just like symbols because they have never heard the sounds.

R3: Some do not understand sign language. They cannot sign and yet that is the language used here. They sign their own things. Sometimes even for us teachers do not have the signs for some words. You have to keep referring to the sign language draft or dictionary and the signs change from one draft to the other.

I: If that is the case what resources do you use when you are teaching reading?

R1: we draw the charts and sometimes textbooks have pictures to show what you are teaching but for some words, it is hard to get a picture to demonstrate what you want.

R2: you are forced to write the whole story on the blackboard. So you need more time...and also the classes are very big. Like the class I am teaching, they are twenty something.. having time for each learner is very hard so monitoring each learner is a problem.. so the resources are a big problem.... where by now the teacher is teaching many learners

I: Which language do you use to communicate with the learners

R2: We are supposed to use Kenya Sign Language (KSL) for communication but it is a big challenge.

I: Any other considerations during the planning of the English reading lesson?

R1: We teach just like in a hearing school. The books are the same.

R2: In class one and two we use the newly introduced language and literacy method called 'TUSOME' We teaching using I DO, WE DO, YOU DO. If I am teaching a

new word, I sign first, then we sign with the learners and the learners sign alone. It is well written in the teachers book all what you are supposed to do every day for every lesson.

I: So you have a library in the school? Do the children make use of the library?

R3: We rarely use the library because even the materials there are [obsolete [outdated].

I: You have mentioned some the challenges experienced during reading. Are there other challenges?

R1: The time factor, it is difficult to complete a reading lesson within the stipulated time as compared to the hearing learners. Signing takes more time than reading using voice. so you find that you teach very little within the stipulated time which is 35 minutes. (large classes).

R2: when you are teaching reading some keep going out, so by the time you finish the reading lesson, it is may be a half of the class or very few who will have gotten what you wanted to them to grasp from the passage There is also the issue of different abilities, some can manage nursery work, others are at the the level of class one, two, three, and four.

APPENDIX E

CONSENT FORM

Informed Consent Form for Dissertation Research Project

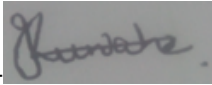
I Kuria Jennifer Wanjiru, am undertaking a research project entitled, Exploring Factors Influencing Grade-Level Reading Proficiency Among The Hearing Impaired: A Case of a Public Primary School In Kiambu County, Kenya, as part of my dissertation project in the master of education programme at the Aga Khan University Institute for Educational Development East Africa. A description of the research project is attached. Data collection would be over the period of 5 weeks starting 12th September to 14th October, 2016, and would include the following:

- Assignments and any other work produced by the students;
- ✓ Video-tape recording of lessons
- ✓ field notes of lesson observation (s);
- ✓ Audio-tape recording of interviews
- Other (to be specified)-----

I write to seek your permission to allow me to collect data as noted above, and to use the data for teaching, publication and conference presentations as appropriate. I agree to adhere to the following conditions:

- As far as possible confidentiality of data and anonymity of participants' identity would be maintained.
- It would be ensured that no harm comes to the participants

Should you agree, please sign the consent form below.

Name: Kuria Jennifer Wanjiru Signature--- Date: 22nd July, 2016
M.Ed. Course Participant

CONSENT FORM

I agree to let the data be used for teaching, publications, dissemination including conference presentations as appropriate. I am aware that withdrawal of consent at any stage, will not result in any adverse consequences for me.

Name of the Research Participant:..... Signature:.....

Institution:

APPENDIX F

ASSENT FORM

I have been given full information on the aim, the purpose and my participation in the study by Kuria Jennifer Wanjiru from Aga Khan University, Institute for Educational Development- Eastern Africa. I therefore agree to be amongst the participants in this study with the following conditions.

Put a tick (✓) as appropriate against each statement;

- The purpose of the study is to explore factors influencing grade-level reading among the Hearing Impaired. A case of a public primary school in Kiambu County, Kenya. I will not be accused of any answer that I give.
- My identity will not be disclosed in the research findings.
- My mathematics exercise book and remedial work book will be checked and photographed.
- I have been briefed verbally and in writing about the purpose and duration of the study.

By my signature I agree to be a participant in this study.

Name (pseudonym):

Designation:

Name of institution (pseudonym):

Signature of participant:

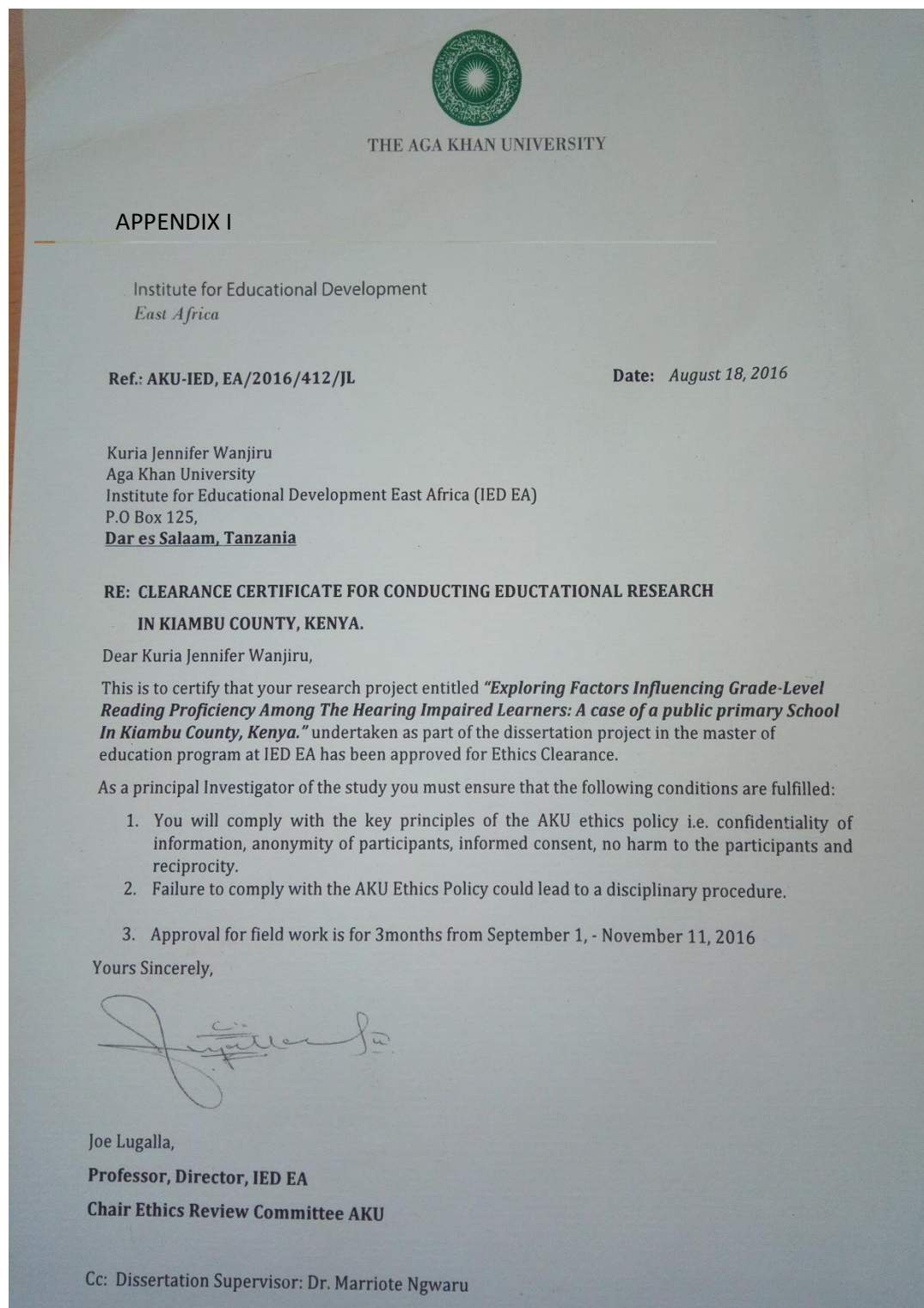
Date:

In case of concerns or further inquiry please contact Head Research Professor Anjum Halai at the address: Aga Khan University, Institute for Educational Development- Eastern Africa. Salama House P.O. Box 125 Dar es salaam Tanzania.

Phone: +255-22-2152293/2150051, Fax: +255-22-2150875, Skype: anjumhalai1

APPENDIX G

UNIVERSITY REVIEW COMMITTEE CLEARANCE



APPENDIX H: NACOSTI PERMIT

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. **A1898**

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:

MS. JENNIFER WANJIRU KURIA
of AGAKHAN UNIVERSITY INSTITUTE FOR EDUCATIONAL DEVELOPMENT-EAST AFRICA, 0-900 KIAMBU, has been permitted to conduct research in Kiambu County on the topic: EXPLORING FACTORS INFLUENCING GRADE LEVEL READING PROFICIENCY AMONG HEARING IMPAIRED LEARNERS. A CASE OF A PUBLIC PRIMARY SCHOOL IN KIAMBU COUNTY, KENYA.

Permit No : NACOSTI/P/16/83376/13440
Date Of Issue : 31st August, 2016
Fee Received : Ksh 1000

for the period ending:
30th August, 2017

Applicant's Signature

Director General
National Commission for Science, Technology & Innovation

