# THE USE OF EDUCATIONAL RESOURCES IN TEACHING LEARNERS WITH DEAFBLINDNESS (LDB) - A CASE OF SELECTED PRIMARY SCHOOL IN DAR ES SALAAM CITY TANZANIA

**KUZENZA MICHAEL NTONOLWA**

**REG. NO: 19/X/GMSN/18735/PD**

A DISSERTATION SUBMITTED TO THE DIRECTORATE OF RESEARCH AND GRADUATE TRAINING (DRGT) IN PARTIAL FULFILLMENTS OF THE REQUIREMENTS FOR THE AWARD OF A MASTER DEGREE OF SPECIAL NEEDS EDUCATION OF KYAMBOGO UNIVERSITY

OCTOBER 2023

# DECLARATION

I, Kuzenza Michael Ntonolwa, do solemnly declare to the Graduate Board of Kyambogo University that this research report is my original initiatives and deliberate effort and, that no part of it has been submitted for another degree in this University or any other institution of higher learning for the same award.

**Signature**................................................                              .............................................

**KUZENZA MICHAEL NTONOLWA**                                                    **Date**

# APPROVAL

The writing and presentation of this research report was written following the guidelines on supervision of research report laid down by Kyambogo University and it is hereby submitted to the Graduate Board with our approval as supervisors.


Signature.............................................. ...........................................

Prof. J.B Okech                                    Date

(Principal Supervisor)



Signature ......................................... ................................................

Dr. Juliet Nakalule Wamala                          Date

(Supervisor)

# DEDICATION

This piece of research report is dedicated to my family, especially my wife and friend, Anna M. Emmanuel; Children: Aaron, Amelia, Abigail, Noela and Chris; not forgetting my late mum and relatives, for their prayers and endurance during the period when I was away from them on this study.

# ACKNOWLEDGEMENT

This kind of work could not be accomplished without the input from some significant persons.

First, I would like to thank God, for enabling me to pursue and accomplish this important milestone in my academic and professional carrier. I sincerely thank the participants of the study, for accepting to be part of, and for providing the information that has made this report completed on time.

I whole-heartedly express my thanks to my supervisors: Professor J.B. Okech and Dr. Juliet Nakalule Wamala, for their tireless efforts invested in guiding me to produce this final report. May God bless them abundantly.

Countless gratitudes also go to the entire staff of the former Department of Special Needs Studies (SNS) and the Faculty of Special Needs and Rehabilitation, who contributed directly or indirectly, to my academic progress and success.

I further wish to extend my appreciations to my friends, for their immense advice and encouragement that gave me impetus and confidence to finish this dissertation. My sincere thanks go to my family members especially my late mother and relatives, for their continuous prayers and moral support.

Finally, I passionately thank my friend and wife Anna, for enduring and understanding me while I was not available most of the time. While acknowledging the support of the aforementioned persons, I should declare that any weaknesses or mistakes that may be found in this report are my own and no one should be held liable.

# TABLE OF CONTENT

## LIST OF TABLES AND FIGURES

# LIST OF ACRONYMS

ADL:             Activity of Daily Living

DB:              Deaf blindness

FGD:             Focus Group Discussion

IQ:              Intelligent Quotient

LD:              Learning Disabilities

LDB:             Learners with Deaf blindness.

MEST:            Ministry of Education Science and Technology

NGOs:            Non-Governmental Organizations

SHIA:            Solidarity Humanitarian International Aid

SI:              Sense International

TIE:             Tanzania Institute of Education

TR:              Hidden identity of participants

UNCRPD:          United Nation Convention of the Right of Persons with Disabilities

URT:             United Republic of Tanzania

VTC:             Vocational Training Centre

WHO:             World Health Organization

XR:              Hidden identity of a primary school

SMC:             School Management Committee

DCA:             Dar es Salaam City Authority

NHPC:            National Housing and Population Census

# ABSTRACT

This study investigated the use of educational resources in teaching LDB. The use of educational resources in teaching helps LDB in academic performance, independent and social interaction. Involvement of LDB in teaching and the use of educational resources seem to be low in Dar es Salaam City in Tanzania. The study applied qualitative research approach and case study design. Research paradigm applied was critical or transformative. The target population included teachers of LDB (N=8), head teacher (N=1) and LDB (N=15). Out of the target population the sample selected comprised teachers (N=4), head teacher (N=1) and LDB (N=15). Purposive and saturated sampling techniques were used to get the sample needed. Interview guides and observation checklists were used for collecting data. Data were analyzed using content and thematic means. One of the findings is that teachers` role is important in different ways in the promotion of the use of educational resources in teaching and learning of LDB. That, teachers do this when they are creative, proactive and capable of producing educational resources. Another finding is that, well trained teachers have the ability, capability and skills in guiding learners in the different ways of using a variety of educational resources available. The last finding is that, there is serious lack of funding by government to promote successful teaching and learning of LDB in the use of educational resources. The study provides clear and precise conclusions in line with the study objectives and study topic. One of the conclusions is that, the school management committee (SMC) has the responsibility to support teachers to be creative, pro-active and capable of providing relevant educational resources that motivate and promote teaching and learning of LDB. Another conclusion is that, well trained teachers are able and capable of guiding, supporting and promoting the ways LDB can use educational resources successfully in their learning. Last, but not least, it is concluded that easy success in the teaching and learning of LDB currently face formidable challenges that hinder successful implementation and effective use of educational resources These include: inadequate funding, inadequate knowledge and skills by teachers of LDB, inadequate educational resources and large number of learners per teacher. The study therefore provides the following recommendations: first, school management should support teachers to be creative, pro-active and capable of producing relevant educational resources and should be trained to gain update skills of using educational resources for the teaching and learning of LDB. LDB. Dar es Salaam city authority (DCA) together with the SMC should collaborate to train more teachers for the good of LDB. The SMC should improve the school environment for better teaching and learning of LDB. The SMC should procure modern tactile educational resources and train teachers on how to use them to support teaching and learning teaching of LDB. and learning. The SMC should conduct regular awareness workshops to reduce negative attitudes towards LDB. The use of educational resources for LDB should be adopted as part of teachers' competences in teaching LDB. SMC should compel teachers to maximize use of educational resources for LDB. Government, through the Ministry of Education Science and Technology should address the current challenges affecting successful teaching and learning of LDB by allocating enough fund. These challenges include: inadequate funding, inadequate knowledge by teachers of LDB, inadequate educational resources and large number of learners that teachers handle per class.

# CHAPTER ONE

## 1.0    INTRODUCTION

## 1.1    Background

The purpose of this study was to examine the use of educational resources in teaching LDB.

This chapter presents the background of the study, statement of the problem, the purpose of the study, objectives, research questions, scope, and significance, justification, limitation and delimitation of the study.

## 1.2    Historical Background of the study

According to the World Health Organization (WHO, 2021),  there are about  1 billion persons with disabilities (PWDs)  in the world,  of whom 20% live with great functional difficulties in their day to day lives.

That , there are 253 million people  affected by some form of blindness and visual impairment; and that, this represents 3.2% of the world population.  About 466 million people have deafness and hearing loss, and that, this represents 6% of the world population. About 200 million people have intellectual disability (IQ below 75); that, this represents 2.6% of the world population.  In Africa, over 15 million people live with deaf-blindness, whereby 80% live in developing countries. It is estimated that in Tanzania about 4.2 million people living with disability and less than 1% of school going age are enrolled in primary and secondary schools. According to Sense International (2018) it is estimated that in Tanzania, there are 1.16 million people who live with deaf-blindness and that, 115 of these experience severe forms of deaf blindness. In the survey which was conducted by Sense International in 2018 It was found out that, in the Dar es Salaam City Authority (DCA) area about 113 children were  with severe deaf-blindness.  The report shows that 15% this

categories of children were registered in school programme, while eighty-five per cent (85%) were denied education access as a result of negative attitudes of the society (URT, 2013). According to National Housing and Population Census (NHPC) (2012), Dar es Salaam City Authority has a population of 1,220,611. The city bears the status of an administrative and is made up of Temeke, Kigamboni, Ubungo and Kinondoni divisions. The city has a total number of 283 primary schools whereby 127 are public and 156 are private (URT, 2013).

Education is a human right but many children with disabilities have not been given the full opportunity to go to school. UNCRPD (2006), article 24(4) provides that states parties have taken to appropriate measures to employ teachers, including teachers with disabilities, who are qualified in sign language and /or Braille and to train professionals and staff who work at all levels of education, such training shall incorporate disability awareness, and the use of appropriate augmentative and alternative modes, means and format of communication, education techniques and materials to support persons with disabilities (Rutherford, 2021). The UNCRPD article 24 provides that any interpretation must take into account this background of respect for the different needs of LDB (Murray *et al.,* 2018).

World Health Organization (WHO) (2015) describes disability as the interaction between individuals and health conditions such as cerebral palsy, Down syndrome and personal and environmental factors, such lack of reasonable accommodation is brought about by: negative attitudes, inaccessibility, transportation and public buildings and limited social interaction (Tamin *et al.,* 2014). Kelantan *et al.* (2018) point out that, deaf-blind people are those individuals who have severe loss of both hearing and sight. That, this condition is a combination of sight and

hearing loss that affects persons' ability to communicate access information and get around. The uniqueness of LDB is based on understanding the needs, teaching techniques and accessibility (Correa-Torres *et al.,* 2021).

Correa-Torres *et al.,* (2021) further added that, disability is a condition that can make a person unable to afford to do a few daily tasks.  They list the traditional types of disabilities in society to visual, physical, intellectual, hearing and multiple disabilities. As deaf-blindness was least recognized in society it was not easy to provide meaningful education services for such a category of people.  In addition,  dual sensory loss and learning disability is a historically neglected areas of social work practice (Tanner *et al.,* 2019).  The Community awareness and sensitization campaigns have led most communities to expose children with deaf blindness to disabilities to access various including education.  There are still some few communities that do not see the benefits of enrolling children on school, efforts are still being made for the Government to work in collaboration with various stakeholders in providing ongoing education and awareness creation, to eliminate the negative attitudes of the society towards individuals with disabilities as a whole. The condition of disability affects individuals` everyday life and plan (Evans & Baillie, 2021). Education for persons with deaf blindness in Tanzania was established in 1993 through the Ministry of Education, Science and Technology (MEST), under the supervision of the President's Office Regional Administration and Local Government. Tanzania Institute of Education (TIE) developed a curriculum that was tailored for the home-based program.  Non-Governmental Organizations (NGOs), such as Solidarity Humanitarian International Aid (SHIA) and Sense International (SI) collaborated with non-government organizations (NGOs) to ensure that all children with deaf blindness get access to school programs.  The unit for LDB was established in

1994 at XR primary school in Dar es Salaam City. The unit started with four LDB and four teachers. At the moment the school attendance registers in the year 2022 shows that, the unit has 15 LDB thus, 7 boys, 8 girls and 4 teachers.

## 1.3    Theoretical background

There is a saying which says that "education is about all that a person learns from conception to death". In the process of learning, a teacher is guided by principles in the use of educational resources during classroom practices. In this study, the socio-cultural theory of cognitive development by Lev Vygotsky (1978), a Russian psychologist has been used (Lantolf & Poehner, 2014).  He emphasizes social interaction between a learner and teacher during the noble teaching and learning process.  He points out that culture is essential to learning a language and that language is essential to the culture. This theory also indicates how parents raise their children and how children behave in certain situations, how learners go to school, and while on the way engage with people in their communities. Biases, attitudes, and behaviour of culture play out on how children learn and develop. This is important in problem-solving activities. Human minds develop through interaction with materials in the teaching process, where people learn from each other and use their experiences to make sense of materials they use in their interaction as they learn or play. The theory has two areas of emphasis: Zone Proximal Development, which refers to the range of abilities and individuals, who can perform with the guidance of an expert when they cannot perform on their own.  The second area is Scaffolding, which refers to a process by which a teacher or a more competent peer helps the student in his or her zone of proximal development. Both concepts are concerned with interactions between teachers, educational resources, LDB and the capacity to develop thinking and problem-solving skills.

For purposes of this study, the interactions between educational resources and the LDB and the capacity to develop the thinking skills and problem-solving skills of learners has been emphasized. LDB have a zone of proximal development (potential) to master a skill or something new but require some outside help for him/her (scaffolding) to accomplish given tasks. This form of help can be in form of appropriate educational resources. The teachers' use of educational resources in teaching and guiding learners to explore provides LDB the opportunity to work with real materials in real-life situations connect to the real environment and stimulate their imagination.

## 1.4     Conceptual background

Educational resources are both human and material resources, the material is a collection of objects that teachers use in the process of teaching and learning, to achieve desired objectives (Zheng & Chang, 2022).  Yuan *et al.*, (2020) declare that educational resources can be classified into five categories. Bullet The first category is visual materials that include charts, real objects, photographs, and transparencies. The second category is audiovisual materials, which include slides, tapes, films, films strips, television, videos, and multimedia. The third category is print materials like textbooks, pamphlets, handouts, study guides, and manuals. The fourth category is audio materials like cassettes, microphones, and podcasts. The fifth category is electronic materials, which include computers, graphs, calculators, and tables. On the same note educational resources create permanent learning for a learner, motivation, interest in the lesson, and enjoyment. Therefore, an educational resource is any material that a teacher uses in the classroom or outside the classroom to teach the learners to meet the objectives. Educational resources are also important in that it create a permanent understanding of the lesson when a teacher uses them effectively,

helps a teacher to teach effectively and increase school performance. These educational materials can be in form of textbooks, charts, worksheets, models can charts (Yuan *et al.,* 2020).

Sjølie *et al,* (2021) point out that interaction had a positive impact on the learners' perceived learning outcomes. Teaching is an interaction between a teacher and the learners, teaching process should be conveyed with the effective use of educational resources to enable a learner to achieve intended objectives. Teachers might utilize in designing the right and favorable learning environment for their teaching. Educational resources play an important role in enabling learners to concretize concepts and relations (Amarin & Al-Saleh, 2020). In addition, educational resources can immerse LDB themselves in visual, auditory, tactile and other senses, and realize interactive teaching (Sun, 2022).

The use of educational resources enhances the learners to manage their life even after they graduated from their studies and helps them to become self-reliant, productive to the community and improvement in future lives. To ensure the accessibility of educational resources and help learners to acquire skills that may help them in their studies and their future undertaking. Promotion of life learning among learners can be promoted with teachers' effective use of educational resources (Misra, 2018).

Dixit *et al* (2021*)* emphasize that involving learners in teaching and learning play a significant role to enable learners to be active all the time. Classroom lives and activities make the class live and active especially when the teacher engages learners with effective educational resources in the teaching process. Curiosity makes a learner ask and get the right answer from his or her teacher,

its curiosity the learner is motivated to learn more. Teaching should be consistent with the best use of educational resources such as books, materials and teaching materials to help learners gain knowledge that can help them in and out of class.

Svetsky *et al,* (2022) observe that teaching is a typical knowledge-based process, which requires the delivery of concentrated educational knowledge within a strictly limited time. It is an interaction between the teacher and the learners to convey knowledge to the learners to fulfill the set objectives. Teaching involves a wide-ranging knowledge base that combines an understanding of content, pedagogy and learners to focus on meeting learners' diverse social, emotional and academic needs (Darling-Hammond, 2021).

In teaching, the effective use of educational resources is very important, especially when used correctly in teaching. The teacher who uses teaching resources enjoys the lesson and the positive results of his learners. The quality of teacher education is seen in the understanding of the student as he understands what the teacher has taught in the classroom. The teaching as competence can be taken care of for better productivity in teaching (Shah *et al.,* 2017).

## 1.5    LDB

A deaf-blind person is an individual who has lost the ability to use the eyes and the ability to hear. Deaf blindness  (DB) is a distinct disability it combined impairments of hearing and visual functions (Štěrbová & Kudláček, 2014).  There are two types of deaf-blindness; the first type is congenital whereby an individual is born with a loss of vision and hearing. The second type is acquired whereby an individual is born with both vision and hearing, but then later acquire loss of vision and hearing condition due to certain circumstances such as accident or diseases. An

individual with deaf blindness suffers from communication difficulties and affording his environment. Loss of vision and hearing affects a persons' ability to communicate and access information and get around (Kelantan *et al.,* 2018). Understanding the unique needs of learners, teaching techniques effectiveness and accessibility to resources are the priority when working with LDB (Correa-Torres *et al.,* 2020). LDB at the unit of school "XR" are congenitally and acquired deaf blindness. These learners' study in their unit and are not in the process of joining primary education which is starting from standard one up to seven. The language which is used for communication is Kiswahili.

## 1.6    Contextual Background

Teaching comprises a systematic process that involves interactions between a teacher and learners respectively. It is a typical knowledge-based process that requires delivering concentrated educational knowledge within a strictly limited time (Svetsky *et al.,* 2022).

If educational resources are not used effectively in a classroom the objectives might not be attained. In Dar es Salaam City Authority, in the unit for LDB at school "XR" teachers seem not to be able to use educational resources in their teaching, LDB in that school seem to lack modern technological teaching facilities. They seem to have an inadequate number of trained teachers in the area of special education. Experience shows that the school also appears to have insufficient funds from the central government and local council authorities to enable it to operate effectively. Despite the government's intervention to make every purchase and distribute educational resources, for all learners with disabilities across the country. The use of educational resources at the unit of school "XR" is doubtful among teachers and this can destroy the future of learners. The authorities concerned do not seem to be doing much to put things right. In favor of that reason, this research on examining the use of educational resources is necessary to be carried out.

The LDB at school XR are trained in grades (grade 1-2), depending on the extent of their disability levels. Grade 1 are those having total deaf blindness in most cases, they require special assistance from teachers as they are restricted with movement and interaction. Grades 2 are those having partial blindness normally require minimal teacher's attention because they can dress, toileting and move from one place to another. In school "XR" the majorities (75%) of learners have partial deaf-blindness and the minorities (25%) have total blindness. LDB who well-perform in the activity of daily living skills (ADL) are proposed to study carpentry, tailoring, weaving, and basketry in a vocational training center (VTC) which is located in Dar es Salaam. So far, no primary or secondary school can enroll LDB to continue their education.

## 1.7    Statement of the Problem

Tanzania has got legal and policy frameworks that guarantee the right persons with disabilities, those with deaf blindness inclusive, a right to education (Constitution of the Republic of Tanzania 1977, Act 15 of 1984, article 6 (2).; Persons with Disabilities Act 2004, section 3.9 (i) In ensuring the realization of the right to education, these laws and policies provide for the use and accessibility of educational resources in teaching LDB in schools (Persons with Disability Policy 2004, section.3.9. Tanzania Education and Training Policy (2014), section 3.2.1 states that the Government shall ensure that adequate educational resources are made available to enhance access to equity education to all learners including those with deaf blindness. Also, the Government of the Republic of Tanzania, through the Ministry of Education has made efforts to purchase and supply special educational resources in schools for LDB to enhance teaching and learning. Despite the above provisions in the policies and legal frameworks, and the efforts by the Government of the United Republic of Tanzania to purchase and supply educational materials in schools to enhance teaching and learning for children with special needs including LDB. Still the use of educational resources faced with challenges that hinder successful learning of LDB in the country.

## 1.8 Purpose of the study

The purpose of this study was to examine the importance of educational resources in teaching LDB.

## 1.9 Objectives of the study

The objectives of the study were to: -

1. find out the importance of educational resources to LDB.

2. examine how teachers use the educational resources

3. find out the types of challenges faced by teachers in using educational resources for LDB.

## 1.10 Research Questions

The research questions to this study were: -

1. What is the importance of educational resources to LDB?

2. How teachers use educational resources to teach LDB?

3. What are the types of challenges faced by teachers in using educational resources for LDB?

## 1.11 Scope of the study

This study was carried out in Dar es Salaam City Authority. It was undertaken in XR primary school. This school was appropriate for this study because it is the only public primary school with LDB in a unit. The study examined the effectiveness of educational resources in teaching LDB. It especially examined the importance of educational resources for LDB; examined challenges facing teachers in using educational resources for LDB and how do teachers use educational resources to help LDB.

**1.12    Time scope**

The study took 21months, from November 2021 to July 2023.

**1.13    Significance of the study**

The findings of this study were to: -

Help the school administration to make follow-up on the use of educational resources among teachers for accountability.  The study brought about information to education policymakers to review educational policies to be favourable to LDB. This study also contributed information to educators, educational agencies, curriculum developers, and non-government agencies that support learners with disabilities for planning and provision support. This study was the source of information to policymakers, members of parliaments, and other educational implementers in the country. The use of educational resources helped learners to gain knowledge and skills for a better future. In addition, a teacher evaluated whether the objectives are achieved or not and make adjustments. It was hoped that this study motivated other researchers to conduct more studies on deaf blindness in the future. It helped the researcher to apply knowledge to practical conditions.

**1.14    Justification of the study**

In recent years even in the past, the main goal of teaching is for the learners to achieve the intended goals. The teaching program should be in line with the principles laid by the Government of the United Republic of Tanzania (URT) that all learners regardless of their disabilities have the right to benefit from the effective use of educational resources in all levels of education systems.  The increased number of learners with disabilities including those having deaf blindness in schools demonstrates that the community has been positive to observe the rights of individuals with disabilities. Teachers' deprived use of educational resources might cause LDB to be left behind.

There is no evidence that a research study of this nature has been carried out within the time scope and geographical area. In this area, the experience shows that there is only one public primary school which enrolls LDB. Through this research study, several problems affecting the use of educational resources in teaching LDB will be attempted and possible solutions may be found. The following chapter will cover literature review.

## 1.15    Limitations and delimitations of the Study

The study faced the following limitations:

There was fear of conceding information from the participants because of the national statistics act which was passed in recent by the Parliament of Tanzania. The act makes illegal any individual to provide data without permission from the relevant authorities. This act affected the researcher because at first one participant was not free to providing information as it was anticipated to be. So, the researcher had to assure participants that all the procedures of conducting a research study had been observed and permission had been given. A researcher being well-known as an educator of learners with visual impairments, made it easy to be accepted by participants.  The time of collecting data was very small which made the researcher to spend less time with participants than was estimated. Although, the researcher made effective use of the little time obtained so as to collect the necessary information. The following chapter will cover the review of related literature.

# CHAPTER TWO

# REVIEW OF RELATED LITERATURE

## 2.1    Introduction

In this chapter, attention is focused on the survey of literature resources from different resources such as reviews of minutes, books and the internet that support the study. The review is therefore based on the research objectives. The objectives of the study are intended to find out the importance of educational resources, examine how teachers use the educational resources and find out the types of challenges facing teachers in using educational resources.

## 2.2    Effectiveness of educational resources for LDB

Educational resources motivate learners to learn better when a teacher uses them effectively in the subject matter (Zheng & Chang, 2022; Alcivar, 2020). Once the teacher is in the classroom teaching by doing more clarity, the learners get a deeper understanding of what he or she is being taught (Filgona *et al.,* 2020). Educational resources improve the learning experience and help to motivate learners to become problems solving in the classroom. Learners to learn (Holzer & Schwester, 2019).

Discouragement of cramming as many learners find themselves having a habit of memorizing what they learn in the classroom, without understanding (Johnson, 2017). The teacher uses educational resources to remove the habit of cramming among the learners. Educational resources can facilitate the proper understanding of the learners within the subject matter. Closely related factors that culminate to learners' school dropping major one is ineffective use of educational resources (Ngwakwe, 2014). In addition, Amarin and Al-Saleh, (2020) suggest that the use of educational

resources is an innovative practices. Nafstad (2015) observes that the acquisition and development of language competencies can increase when learners engage in the subject matter. There is an increase in vocabulary whereby the teacher who teaches using educational resources, gives the learners the ability to increase vocabulary and build more languages.

Acquisition of skills and knowledge is based on what learners learn in the classroom. Thus, a teacher is a very important person in providing the learners with the knowledge, especially when educational resources are used effectively, they create a permanent memory in the learners' minds (Gilakjani & Sabouri, 2017). Teachers' beliefs have a deep impact on their classroom to prepare and implement their syllabus. Availability of educational resources helps learners with disabilities to acquire skills that may help them in their studies and their future undertakings (Beyene *et al.,* 2020). Delivery of effective and quality teaching, carrier development and enrichment and managing learners' skills is a sign of acquisition of skills to learners (Tang, 2020).

The use of educational resources makes it easier for learners to explore get concepts of a topic during a class session, whatever kind of educational resources can be utilized effectively during classroom activities. The intervention has a positive impact on the learners' perceived learning outcomes (Sjølie *et al.,* 2021). In addition, educational resource builds understanding for the learner of everything learned in the classroom and outside the classroom. Educational resources help learners to acquire skills that may help them in their studies and their future undertaking (Beyene *et al.,* 2020). Teachers' philosophy of teaching, building relationships, making learning meaningful, learners autonomy, and supportive administration (WARD, 2018).

Savitri *et al* (2015) point out that, both motivations intrinsic and extrinsic enable learners to engage in a subject matter of their education. Learners are more motivated especially in the lesson that a teacher teaches using educational resources. Educational resources make learners to be motivated to like learning. Teacher's motivation is one of the factors that affect the realization of the teaching objectives, motivation, and academic achievement of learners (Abazaoğlu & Aztekin, 2016). The study reveals how significant educational resources are to promote effective teaching and learning (Adebayo *et al.,* 2020). In the process of teaching, teachers can use realia media and bring it into the class to get more attention, and participation of learners (Irawan, 2017). Developing educational resources based on audio-tactile which is valid, practical, and effective to improve learning motivation and achievement amid learners (Arlinwibowo & Retnawati, 2015). In addition, Alcivar, (2020) emphases educational resources analyze the importance of motivation to learners who are capable to explore, investigate and learn new skills. Involvement of learners and access to quality learning opportunity resulted by the best strategies and proper use of educational resources (Bombardelli, 2020). The achievement and development of the learner are improved by the appropriate use of educational resources (Alhadabi & Karpinski, 2020). A learner who is not doing well in the classroom can advance in academic performance, especially when a teacher instructs by using educational resources. Self-efficacy may increase the positive effect of mastery and performance. In addition, educational resources minimize school dropout which means a learner who understands what he or she learns at school he will be interested to attend school as well (Chilanda, 2020).

The use of educational resources enhances the teaching and learning process. The learning process requires a teacher to plan and prepare educational resources before entering the classroom. This

helps a teacher to achieve the goals he has set for the learners. Educational resources enhance teaching and learning processes by exhibiting information necessary to acquire knowledge and skills (Misseyanni *et al* 2018). In addition, the learners acquire experience and information to assist them in answering different questions in classroom activities. Educational resources provide the core information that learners will experience, learn, and apply during a course (Anderson *et al.,* 2019). Teachers should always remain crucial importance to continue in teaching and improve quality education services because education is an important factor for social and economic development for all human beings (Hossain *et al* (2016). Academic improvement of learners in a particular subject is supported by effective use of educational resources (Zenda, 2017).

## 2.3    How educational resources for learners with deaf-blind are used

In teaching LDB normally teachers use tactile approaches because LDB communicate through touch (Martos *et al.,* 2021). Through the advancement of technologies, these days' teachers use modern resources in their schools. Such modern materials include puzzle maps, sensory channels, and visual, auditory. Braille embossers incorporate a mode of creation of tactual embossed graphs. It produces information from a computer, Braille note-takers, mobile device, and flash drive onto specialized heavyweight papers. Kiliçkaya, (2016) emphases that teachers are not only deliver educational resources to learners but also guide learners in their learning experience. Orientation and mobility, activity of daily living skills (ADL) and physical exercises help out LDB to be independent and improve body immunity (Belyakov *et al*., 2021 ; Tayyara, 2020; Cornelius *et al*., 2020).

Martos *et al.,* (2021), and Reed *et al.,* (2019) share a similar view that the educational purpose for producing tactile educational resources is to benefit users who have deaf blindness. Then, either total or partial LDB are required to learn in tactile forms to touch, stimulate and gain more

understanding of the content. Teachers should teach using tactile strategies with an approach that incorporates feelings such as touch, smell, which largely helps learners explore resources or something and gain understanding. An important point to consider is that learners with deaf-blindness always communicate by using fingers that even teachers use in classroom instruction. Teachers' pedagogical decisions have an impact on the learners' learning experiences (Lepp *et al.,* 2021). Blended educational resources provide an ideal platform for the implementation of reusable learning objects as a methodological tools to support classroom instruction (Onofrei & Ferry, 2020).

Modern technological educational resources must be used according to the degree of disabilities among learners (Wu *et al.,* 2020). This will keep learners up-to-date with the changes in science and technology in the modern world. Such modern resources include puzzle maps which facilitate various sensory channels, visual, auditory, and tactual. Successful teachers who use various educational resources in teaching such as tactile maps and videos normally stimulate the visual, auditory sensory, and tactual ability of learners (Tanamir & Dkk, 2020). The use of teaching objects is a new concept in designing online instructional contents (Meng, 2021). In addition, Arenas and Palaoag (2018) emphasize that exceptional learners with disabilities contain students who experience complications, the need for greater changes in the old style of educational resources to modern one is a priority.

See and Advincula (2021) assert that, tactual educational resources such as tactual maps and diagrams must have appropriate and simpler images that are friendly to LDB to explore the contents. In addition, Gabarró-López and Mesch (2020) emphasize that LDB normally use tactile sign language in their daily communication. Tactual maps and diagrams should not be congested with things that can make LDB fail to explore the content in it. Improvement in teaching

approaches promotes learners with comprehensive quality (Zhao *et al.,* 2018). Electronics digitalized textbooks, are becoming popular in teaching learners with disabilities including those having deaf-blindness (Kononova *et al.,* 2019).

Something to consider is that individuals with deaf blindness communicate, using fingers that even teachers use in classroom programs. Tactile communication that LDB use at school will be used throughout their life, even after school to communicate and interact with their community. Various individuals with deaf blindness use tactile sign language in their daily life (Gabarró-López & Mesch, 2020). These days, more and more attention has been paid to learners through intelligent devices; children can immerse themselves in visual, auditory, tactile and other senses and realize interactive teaching approaches (Sun, 2022).

Martos *et al* (2021) emphasize that the educational purpose for producing tactile educational resources is to benefit users who have blindness.  Then, either total or partial LDB are required to learn in tactile forms to help learners touch, stimulate and gain more understanding of the content. Teachers should teach using tactile strategies with an approach that incorporates feelings such as touch, smell, which largely helps learners explore resources or something and gain understanding. An important point to consider is that learners with deaf-blindness always communicate by using fingers that even teachers use in classroom instruction. Teachers' pedagogical decisions have an impact on the learners' learning experiences (Lepp *et al.,* 2021).

According to See and Advincula (2021) who emphasize that tactual educational resources such as tactual maps and diagrams must have appropriate and simpler images, that will be friendly to LDB

to explore. Tactual maps and diagrams should not be congested with things that can make LDB fail to explore the content in it. Improvement in teaching approaches promotes learners with comprehensive quality (Zhao *et al.* 2018). Most of the Braille embossers incorporate a mode for creation of Braille embossed graphics (Martos *et al.,* 2021). The idea is to develop teaching educational resources based on audio tactile which is valid, practical and effective to improve learning motivation and achievement of learners with disabilities (Arlinwibowo & Retnawati, 2015).

The thing to consider is that individuals with deaf blindness communicate, using fingers that even teachers use in classroom programs. Tactile communication that LDB use at school will be used throughout their life, even after school to communicate and interact with their community. Various individuals with deaf blindness use sign language in their daily life (Gabarró-López & Mesch, 2020). Today, more and more attention has been paid to learners through intelligent devices; children can immerse themselves in visual, auditory, tactile and other senses and realize interactive teaching approaches ( Sun, 2022; Lane et al., 2019).

The following chapter will cover the methodology of the study which includes: the research approach and design, area of the study, target population, sample and sampling procedures, data collection, data analysis and ethical procedures.

## 2.4    Challenges faced by teachers in using educational resources for LDB

The Governments and relevant authorities are required to provide funds to support the purchase of educational resources. In certainty, in most cases money allocated by the government for purchasing educations resources is under-budgeted and delayed to reach schools in time; this can

delay the availability of educational resources. The long payment delay is the source of dissatisfaction and de-motivation across all facilities (Turcotte-Tremblay *et al.,* 2020). Government must conduct investigation and feasibility studies and adopt relatively reasonable allocations to a relatively balanced for limited educational resources (Ji *et al.*, 2021). In addition, inadequate educational resources and deficiency in context, knowledge cut across all the learners (Boakye & Ampiah, 2017).

McKittrick (2020) claims that; there is a lack of professional knowledge about deaf blindness. Teachers' lack of special education training to teach children with disabilities can cause deviation of objectives of the topic. It is recommended that they receive special training to find teaching methods. Due to the limited number of teachers who have been trained in special education, the authorities use even teachers who have not received special education to teach children with disabilities. Teachers morale, motivation, attitudes and commitment encountered for their experience (Adetayo, 2016). In addition, Philominraj *et al.,* (2021) asserts that methods use by teachers not adequate to favor learners reaching the level proficiency.

Teachers who have not trained in special needs may not know how to handle learners with disabilities (Fernández-Batanero *et al.,* 2020). Quality of training of teachers to develop professional skills to meet the requirement of national innovation in special needs education is very crucial (Ha *et al.,* 2021). Problems and needs related to teaching methods included a lack of specialists in teaching specific courses and uninteresting teaching techniques (Oeamoum & Sriwichai, 2020). Training of teachers of learners with disabilities and orienting specialist teachers cover a broad curricular contents (Chache & Mwaikokesya, 2017). (Yulianti *et al.,* 2020) note

that development of teaching educational resources is one way to implement them but must be accordance with competencies.

Inadequate numbers of trained teachers in special needs education face teachers to teach LDB ineffectively. A special education teacher is trained to know how to teach and raise children with disabilities, which is essential in teaching. Many teachers are not adequately trained on how to use technology effectively in teaching learners with special needs educations in their classrooms (Candyce *et al.,* 2017). In addition, Teke *et al.* (2022) point out that shortage of qualified special needs teachers in some schools is recorded as a challenge. Teachers' knowledge and commitment to putting disability rights-related provisions shine learners' performance (Rutherford, 2021).

Negative attitudes of the society towards learners with disabilities: society plays an important role in discriminating against those who are regarded as being different (Engelbrecht, 2019). People with disabilities are part of the community, and the community is supposed to support them to become self-reliant and afford their future. On contrary, society regard people with disabilities as a curse and burden in society; as a result, community members are negligibly involved in supporting them in education-related issues. In addition, individuals with disabilities experience various barriers to education inclusion within their communities (Zabeli *et al.,* 2021). In addition, Jaiswal *et al.* (2020) are of the view that factors acting as barriers including lack of awareness about deaf blindness, negative attitudes and stigma associated with disability.

Engelbrecht (2019) argues that society plays an important role in discriminating against those who are regarded as being different. People with disabilities are part of the community, and the

community should support them to become self-reliant and afford their future. On contrary, the society observes people with disabilities as a curse and burden in society; as a result, community members are negligibly involved in supporting them in education-related issues. In addition, learners with disabilities experience various barriers which cause poor motivation to education and inclusion within their communities (Zabeli *et al.,* 2021; Sumardi, 2020).

Possi and  Milinga (2017) report that Tanzania has a long way to go when compared to other countries in effectively achieving the provision of education to exceptional individuals in such a way that several teachers face challenges of knowing how to use modern technological educational resources. This hinders teachers to use educational resources to teach learners while those educational resources are accessible and available in their schools.

Kola (2021) share the same view with  Chilanda, (2020) that; an effective lesson plan promotes effective teaching and implementation of the curriculum.  Lack of time to plan and prepare a lesson plan and educational resources are some of the bad habits that teachers have to avoid for a better future for learners. Teamwork among teachers to provide varieties of techniques is a useful practice that can help to improve. Working as a team among teachers provides learners with skills that help them to study collaboratively and listen to one another (Nessipbayeva, 2019).  According to (Lin *et al.,* 2022) argue  that teachers prepared educational resources to the school teaching platform complete the concept of learning within all learners.

Yuwono and Okech (2021) point out  that an overcrowded number of learners in the class can make it difficult for a teacher to prepare educational resources because each learner has a different

level of disability from one another they explain that LDB ought to be taught in a friendly environment based on the type and degree of disability. When a school or class lacks a friendly environment, it can challenge both teacher and the learners as well, such the use of educational resources will also be somehow restricted.

Maine *et al* (2020), and Matete, (2016) point out that; inadequate educational resources can limit the need for education for learners with disabilities. Many schools and units have a shortage of educational resources in teaching children with disabilities which hinder teachers in teaching learners with disabilities. Inadequate educational resources for teaching LDB deny their right to education. It should be noted that learners differ from their needs due to their level of disability. Learners with learning disabilities (LD) have a wide range of academic needs (Weiss, 2018).

Unfriendly teaching and learning environment can hinder the provision of education for LDB to be limited to some extent and fail to meet the intended objectives. The infrastructure available in schools is not adequate for the successful implementation of a competency-based curriculum (Wambua & Samuel, 2019). Asrial *et al* (2021) share a similar view with Sajjad Hussain *et al* (2020) that unfriendly teaching methods, untrained teaching staff, hostile environment challenging learners with disabilities. In addition, globalized world, with increasing environmental pressure challenge sustainability of education (Misseyanni *et al.,* 2020).

Coman *et al* (2020) share a similar view with Wahlqvist *et al* (2020) observe that teachers' lack of technical skills on teaching style improperly can be adapted. The lack of technical skills in using modern resources makes teachers unable to teach using educational resources, which causes

learners not to get the knowledge they are expected to gain in class. In recent decades, computer technologies have been developing rapidly because the educational system is heavily focused on the digitalization of the educational environment (Kononova *et al.,* 2019). In addition, (McKittrick, 2020), and Probst (2017) emphasize that the field of deaf blind education has a long and rich history which includes a lack of qualified personnel to meet the needs of the population of learners.

Lack of proper funding has limited the provision of education for disabled children to be ineffective in terms of purchasing educational resources, availability of funds leads to the failure of various children's educational resources. Lack of proper funding and support is a barrier for teachers of LDB (Alrahlah, 2016). Lack of funding limits the conclusion which can be made about the efficacy of these efforts in teaching learners with disabilities (Biglan *et al.,* 2020).

# CHAPTER THREE

# METHODOLOGY

## 3.1     Introduction

This chapter presents the methodology which guided this study on the use of educational resources in teaching LDB in Dar es Salaam City Authority.  This chapter describes the research approach and design, area of the study, target population, sample and sampling procedures, data collection, data analysis and ethical procedures that were observed.

## 3.2    Research approach

There are several ways to do research in carrying out research including qualitative, quantitative and mixed research approaches (Bryman, 2016). This study used qualitative research approaches to find out the use of educational resources in teaching LDB in Dar es Salaam city. The qualitative research approach is defined as an inquiry that seeks to understand a given social phenomenon or research problem from the perspective of the local population involved (Farr, 2008).  The qualitative research approach is deemed ideal in this study because it enabled the researcher to obtain specific information, study and build a holistic picture and detailed views from the participants in a natural setting.  The natural setting, in this case, was a unit in a primary school where LDB are studying from.  This approach uses a smaller sample size thereby helpful to save time and costs of carrying out the study (Yin, 2013).

## 3.3    Research Design

This study used the case study design in examining the use of educational resources in teaching LDB. A case study is a  qualitative approaches method in which the research explores real-life,

contemporary bounded systems or multiple bounded systems over time through detailed and in-depth data collection (Creswell, 2013).

The research at hand is qualitative. The qualitative research approach is considered relevant due to its nature of providing data from the respondents in natural settings (Gall *et al.,* 2006). LDB were observed in the classroom and outside of the classroom, how they participate in different activities. The researcher used a case study design for the reason that it enabled an investigation of a contemporary phenomenon (the "Case") in depth and within its real-world context (Yin, 2013). The case in this study was a school where LDB are studying from.

## 3.5 Target Population

The target population in the research study is the total group of individuals from which the sample was drawn (McLeod, 2018). The target population for this study was (24) participants. This number was distributed under the following categories; head teacher, teachers for the learners with blindness, and LDB. Teachers were acknowledged as potential participants because they are directly involved in facilitating the teaching process while LDB are the beneficiaries of the use of educational resources as a pedagogical tool in teaching processes.

## 3.6 Sample

A sample is defined as a smaller group or subset of a total population in such a way that the knowledge gained is representative of the total population under the study (Cohen *et al.,* 2017). The study selected (20) participants out of a target population of (24). The 20 participants enrolled in the study were those who are experienced from 2 up to 10 years are known to give the relevant information for the study. Head teacher (1), teachers for LDB (4) and LDB (15). Sample size

27

depends on what on what a research wants to know, the purpose of the enquiry, what is at stake, what was useful, what had credibility, and what was done with an available time and resources (Patton, 2002).

The saturated sampling technique is referred to as the ability to obtain additional information about the study or data satisfaction (O'Reilly & Parker, 2013). Saturated sampling was done through reviewing an initial sample of interview for example 6 interview of the focus group to identify new codes, the collection of new qualitative data no longer changes or change little the coding manual. The point at which, the performance of the study declines such that each new interview makes a smaller contribution than the previous.

Purposeful sampling refers to judgment while choosing participants of the population to participate in the study (Cohen *et al.,* 2017). Purposeful sampling was done to enable the researcher to squeeze a lot of information out of the data collected to allow the researcher to describe the major impact their finding has on the same population. Purposeful sampling aligns the best across nearly all qualitative research designs.

*Table 1:*

*Showing the target population, sample and methods of selection*

| Target Population | | Sample | Method of Selection |
|---|---|---|---|
| A. Teachers for LDB | 8 | 4 | Purposive |
| B. Head teacher | 1 | 1 | Saturated |
| C. LDB | 15 | 15 | Saturated |
| **Total** | **24** | **20** | |

*Source: Primary Source*

## 3.7    Sampling Techniques

In this study, purposeful and saturated sampling techniques were used. It was intentionally selecting who were likely able to finish needed information (Cohen *et al.,* 2017).

Purposeful sampling refers to judgment while choosing participants of the population to participate in the study. To this study, saturated sampling was used to select teachers, for a reason that, teachers contained relevant information about this study. Purposeful sampling enables a researcher to gather qualitative responses which lead to better insights and more precise research outcomes. The saturated sampling technique is referred to as the ability to obtain additional information about the study or data satisfaction (O'Reilly & Parker, 2013).  In this study, saturated sampling techniques were used to collect information from the head teacher and LDB. Saturated sampling enabled a researcher to overcome problems of lack of intentional sampling frames.

## 3.8    Data collection methods

There are several methods of collecting data in a qualitative research study. These include: interview, observation, documents analysis, archival and artifact and focus group discussion (Yin, 2014). Based on the nature of this research study interviews and observation were used in collecting data. These two methods were used to blend the data collected and check on the accuracy of the information given.

### 3.8.1   An interview

In this study, interviews (semi-structured) and observation were used.

An interview is a method used in collecting data that involves the presentation of oral-verbal.  It is a conversation for gathering information (Beveridge, 2021). The interview has three types namely personal interview, telephone conversations and email or web pages interview. In this

study both personal, telephone and email interviews were used because. It allowed participants to elaborate on their responses to render a clear context to the study. It is appropriate for a researcher to collect information about the study. Tools for data collection were prepared in Kiswahili and translated into English. This is a method used in collecting data that involved the presentation of oral-verbal. It is a conversation for gathering information (Beveridge, 2021). The researcher used semi-structured interview because it is comparable, reliable data, flexibility to ask follow-up questions. All research questions were clear and understandable according to the study develop a checklist of the questions to be asked during the study, expressed clearly the purposes of the study and start asking neutral questions to facilitate the free flow of information.

in this study, the researcher used interview because it was possible to make follow up questions, respondents are available to clarify immediate concerns and ambiguous statement (Ary *et al.,* 2010)**.**

### 3.8.2 Observation

Observation is referred to as a method to observe and describe the behaviour of a subject. It is also referred to as a participatory study because a researcher has to link with participants to record and take notes. Focus Group Discussion (FGD) for teachers and observation of LDB were considered. Observations have become an integral part of a research study (Bostic *et al.,* 2021). In linking with LDB, the researcher got first-hand information for the study. This is the action or process of closely observing or monitoring something (Bostic *et al.,* 2021). Participant observation was used because the researcher was easy to study and observe the natural behaviour of the participants by becoming a part of the group. The researcher could determine the research objectives, understand the

objectives and goals of the study determine questions and create a research guide, establish methods of gathering data, to observe and prepare data.

### 3.8.3 Focus Group Discussion

It is a qualitative research and data collection technique in which a selected group of people discusses a given topic or issues in-depth facilitated by a researcher (Hancock *et al.,* 2016). Focus group discussion was done in the following ways: - To identify the main objectives of the meeting, develop key questions, develop agenda, explain how to record the session, identify and invite the suitable discussion participants the real number between six and eight teachers.

### 3.9    Procedures of data collection

Before undertaking the actual study in the proposed area, approval of the research proposal by the supervisors as well as the Department of special needs studies at Kyambogo University was required. The researcher obtained permission to conduct the study from the Head of Department, in which an introductory letter was given. After obtaining permission, the researcher personally formulated a request letter addressed to the participants and thereafter visited the proposed study location to meet the prospective participants. The researcher then sought permission from the school administration to be allowed to meet and establish rapport with the prospective participants to present the expectations, seek informed consent and also get expectations of the participants. On agreement between the researcher and the participants, an interview was then arranged and conducted with each participant. During the interview, the conversation was audio-recorded and at the same time, there was note-taking by the researcher. Meanwhile, the researcher went-ahead to also observe and ascertain the nature of educational resources in the classroom of LDB as a way of confirming the narrative from the participants.

## 3.10    Data Analysis

The data collected was transcribed and sorted out.  Categorizing the data was then done according to themes and subthemes that were emerged. Direct responses from participants were presented as well. Data analysis is thus important as it is the way of describing and interpreting these raw data to obtain the meaning and pattern from it (Bjorg, 2016). The researcher's views and comments were made on the responses from participants' answers given backed up by literature reviewed in chapter two while codes were used to protect the identity of participants where direct quotations from the participants are applied (Creswell, 2013). In reporting the information collected some direct questions from participants was recorded. Reporting direct verbal accounts from research participants is important because it upholds the taste of the original data (Bjorg, 2016).

## 3.11    Ethical consideration

Ethical considerations are part of the heartiness of research and cannot be evaded and observing these ethics assist to protect the rights of the research participants, develops a sense of trustworthiness from them and encourages the integrity of research. Research ethics exist to guide researchers and research participants in way which guarantee the production of new knowledge does not damage the investigator and research participants (Nuwagaba & Rule, 2015). To promote credibility and authenticity research ethical issues were observed at all stages of the research study with particular attention to the consent of participants and confidentiality of information for purposes of protecting the participants' image and privacy (Baines *et al.,* 2013).

In attempting to keep these ethics, the participants were informed about the study purpose, duration, and how the data collection was collected and be utilized a right to decline to participate

in the study if they so desired. Informed consent from participants was sought through written communication to request them to provide necessary information of the study including recording their views as a way to avoid violation of their rights in one way or the other. All participants voluntarily participated in this study and this ensured that they are aware of what was happening. Anonymity was observed by using codes during data analysis as a way of protecting the participants should in no way reveal their identity.

# CHAPTER FOUR

## DATA ANALYSIS, INTERPRETATIONS AND DISCUSSIONS

### 4.0    Introduction

In this chapter data analysis and interpretation are based on the study objectives. For the attention of the reader, the objectives include: the importance of educational resources in teaching LDB, examinations of how educational resources are used in facilitating learners with deaf blindness (LDB) and challenges faced by teachers in using educational resources. In presenting the data analysis, verbatim statements from participants are used to maintain the originality of the information collected. In each section presentation of the findings is provided, followed by a discussion of the findings. To uphold privacy and, or anonymity, codes are created and used as TR1, TR2, TR3, TR4 and TR5 to hide the identity of participants and, or to ensure their confidentialities. The findings are presented and discussed according to the emerging themes and sub-themes from the data as indicated in the next sections.

### 4.1    Description of participants

The study targeted head teachers, teachers and learners with deaf blindness in XR Primary School in the Central City of Dar es Salaam, as shown in Table 3.

*Table 2:*

*Demographic characteristics of participants*

| Category | | Gender | | Total |
|---|---|---|---|---|
| | | **Male** | **Female** | |
| A | Teachers | 1 | 3 | 4 |
| B | Head teacher | - | 1 | 1 |
| C | LDB | 7 | 8 | 15 |
| **Total** | | **8** | **12** | **20** |

*Source: Primary Data*

The categories of participants shown in Table 3 are, one by one, to explain the significance of including them in the study. The explanations are as provided the next section.

Category A: Teachers here are selected as sources of information in the following reasons: they work with LDB in facilitating teaching process; they know the strengths and weaknesses of teaching LDB and awareness of educational needs for LDB.

Category B: Head teacher is selected here because of being senior and responsible for managing staff, supervising other teaching staffs, evaluating teachers' performance, setting school goals, objectives and expectations.

Category C: LDB here are selected and observed because they are beneficiaries of the use of educational resources.

**LDB**

This study dwelt on learners with deaf blindness on the use of educational resources in classroom. LBDs were observed in classroom and during outside activities. Presentation of research findings are provided under three categories of participants, that is: teachers, head teacher and LDB. The first presentation of the findings is provided in the next section, starting with Objective One, and under category A (Teachers).

**Data analysis and findings on Objective One, under category A (Teachers)**

Objective One was meant to find out the importance of educational resources in teaching LDB

The findings include: academic performance, increased school pass rates, elimination of school dropout, active participation and motivation.

**Academic performance**

One of the major findings indicates that educational resources are important to LDB for academic improvement for both teachers the learners. One of the participants states, and quote:

> *Umuhimu wa vifaa vya kufundishia watoto wenye ulemavu wa kutoona na kusikia huwasaidia kulielewa somo*(TR4).
>
> *[The importance of educational resources for children with deaf blindness helps them understand the lesson better]* (TR4).

The findings indicate that the use of educational resources help learners to understand the subject better. The findings are significant as far as improving teaching for the primary school XR is concerned. The findings agree with that of Adebayo *et al* (2020), who points out that educational resources have a significant impact on learners' performance in school. The academic success of

LDB is very important for both teachers, parents, the community and the nation at large. It is such a good encouragement for teachers to work hard in XR primary school to adopt educational resources for the improvement of LDB.

**Increased school pass rates**

One of the findings indicates that educational resources are important to LDB for increasing school pass rates. One of the participants' states and quote:

> *Kwa kweli matumizi ya vifaa vya elimu husaidia kuaongeza kiwango cha ufaulu wa shule katika wilaya , kimkoa,na kitaifa kwa ujumla* (TR5).
>
> *[In fact, the uses of educational resources help to increase school achievement rates in the district, regionally, and nationally as a whole]* (TR5).

The findings, concerning educational resources reveal that there is increased school performance at the district, regional and national levels. This finding is significant as far as improving teaching for XR Primary School is concerned. The finding agrees with that of Amarin and Al-Saleh (2020), who assert that use of educational resources aids in the learners' performance. In support of the above, Zenda and Ferreira (2016) emphasize that use of educational resources contributes to the improvement of pass rate in certain subjects. It is such a good experience for XR primary school to adopt educational resources for good increased pass rates.

**Reduced school dropout**

One of the findings indicates that educational resources help in reducing school dropping out outs among LDB. One of the participants' states and quote:

> *Kufundisha kwa kutumia vifaa vya kufundishia vinawafanya watoto wapende shule na kuacha kutoroka shule* (TR1).

*[Teaching using teaching materials makes children love school and stop escaping school]* (TR1).

The finding concerning elimination of school dropping outs reveals that educational resources make learners love school and stop escaping. The finding above indicates that when teachers use educational resources, it improves retention of LDB in school. This is something that is useful for XR Primary School to adopt. The finding here is related to that of Ngwakwe (2014), who emphasizes that a closely related factor that leads LDB to drop out of school is an ineffective use of educational resources in the teaching process.

**Active participation**

One of the findings shows that educational resources are important to LDB; that it helps to increase their active participation in class. One of the participants states and quote:

> *Vifaa vya kufundishia huwafanya wanafunzi wawe makini na masomo darasani pale wanaposhiriki kuchangia kujibu na kuuliza maswali darasani* (TR3).

> *[Teaching materials make students pay attention to lessons in the classroom as they participate to contribute to answering and asking questions in class]* (TR3).

The finding here is significant as far as improving teaching for the XR Primary School is concerned. The finding agrees with that of Bombardelli (2020), who observes that participation of learners and access to quality learning opportunities for all learners result from the best strategies for utilization of educational resources. It is, therefore, worthwhile to note that educational resources are very crucial in enhancing the teaching process of LDB. Participation is only possible when all learners have access to appropriate educational resources. Thus, schools are called upon to ensure that appropriate educational resources are availed to enable the teaching of LDB to become effective.

**Motivation**

The major finding reveals that educational resources increase motivation. Other participants show that educational resources are important to LDB. Specifically pointing out educational resources motivate learners to enjoy learning and grasp whatever they are taught. One of the participants states and quote:

> *Vifaa vya kufundishia hufanya mwanafunzi awe na motisha ambayo inamfanya apende kujifunza zaidi na kuwa na hamu ya kujua somo vizuri* (TR2)
>
> *[Teaching materials make the student motivated that makes him or her want to learn more and be eager to know the lesson better]* (TR2).

The findings concerning educational resources reveal that motivation for LBD is very important in improving teaching LDB in XR primary school. The finding here agrees with that of Alcivar, (2020), who asserts that the use of educational resources enlists the importance of motivation to learners. Learners are capable to explore, investigate and learn new skills. It is such a good experience for XR primary school to adopt educational resources for improvement of LDB as it acts as an external enabler for them to benefit from the teaching process.

Having noted the findings concerning the study Objective One, the next presentations are with respect to Objective Two.

**Data analysis and findings on Objective Two under category A (Teachers)**

Objective Two was meant to analyze how educational resources for LDB are used by teachers. The findings include: printing large fonts and Braille prints, the activity of daily living (ADL), stimulation of tactual senses, games and sports, mobility and orientation.

**Printing large prints, Braille prints and tactual diagrams**

One of the participants states and quote:

*Hapa darasani tunayo themofomu pamoja na kompyuta na printa yake, pia tuna whitecane na baadhi ya shime shime sikio ambazo huwa tunazitumia kuchapishia mitihani na mazoezi mbalimbali kwa ajili ya wanafunzi wetu* (TR3).

*[Here in the class we have thermoform as well as its computer and printer, we also have white canes and some of the hearing aids that we use to process various in examination, tests and other activities for our students]* (TR3).

The findings on how educational resources for LDB are used involve: production of large font printouts, Braille prints and tactual diagrams needed during examinations and other activities. This finding here is significant as far as improving teaching LDB in XR primary school is concerned. The finding agrees with that of Martiniello and Wittich (2020), suggest that teachers should consider whether specific pre-Braille readiness activities can be used to address the uniqueness of learners with deaf blindness. It is such a good experience for the XR primary school to adopt sustainability and good use of all educational resources available in school for the benefit of LDB. IT IS (2022), in line with the above finding notes that Braille and large prints are an alternative means of communication for LDB.

Another finding regarding how educational resources are used shows that printing large prints are very important for LDB with partial impairment. One participant states and quote:

*Vifaa tulivyonavyo kwa kweli ingawa havistoshi vinatusaidia sana katika kuchapisha mitihani, kutunza taarifa mbalimbali na kuandaa taarifa za maendeleo ya watoto kwenda kwa wazazi wao. Kwa mfano kompyuta huwa tunaitumia kuchapisha maadishi makubwa ambayo watoto wenye uoni hafifu huweze kusoma* (TR2).

*[The tools we actually have though not enough help us greatly in publishing exams, keeping information and preparing reports on children's progress to their parents. For example, a computer we use to print large prints that children with partial sighted can read]* (TR2).

The finding here is significant as far as XR primary school is concerned. The finding agrees with Rodríguez-González and Rodríguez-Míguez (2020), who agree that some educational resources act as assistive devices to help LDB to be independent.

**Activity of Daily Living (ADL)**

One of the participant states, and quote:

> *Kuna vifaa kama fagio, sabuni, ndoo na vyombo vya kupikia ambapo wanajifunza kuosha vyombo, kufagia ndani na nje, kufua nguo, kuoga, kutumia vyoo vizuri, kuvaa na kuvua nguo stadi hizi zitawasaidia hata wakiwa nyumbani baada ya kumaliza masomo hapa shuleni* (TR1).

> *[There are materials such as brooms, soaps, buckets and cooking utensils where they learn to wash dishes, sweep in and out, wash clothes, shower, use toilets properly, wear and undress these skills will help them even when they are at home after finishing school here at school]* (TR1).

This finding here is significant as far as improving teaching and hygiene for the XR primary school is concerned. The finding agrees with that of Acosta *et al.*(2022), who point out that the cognitive abilities of LDB renders them incapable to perform satisfactorily, most of the essential activities of daily living (ADL), needed for independent living. ADL is important, for they help individual LDB after school to fit well in the world of work and in their respective societies.

One participant says and quote:

> *Tunawafundisha watoto stadi za maisha kwa sababu wakimaliza shule wataenda kuishi maisha na jamii zao, hivyo lazima wajue kufua, kuoga, kuvaa na kuvua nguo hata kwenda bafuni na chooni ili wajitegemee* (TR1).

> *[We teach learners life skills because when they finish school, they will go back to live their lives with their communities, so they must know to wash, shower, dress and undress even going to the bathroom, toileting to rely on themselves]*(TR1).

41

The finding here is significant as far as improving teaching LDB in XR primary school is concerned. The finding agrees with that of Tayyara (2020), who notes that ADL promotes quality of life for LDB. In line with the above finding, Zhang and Guo, (2021) affirm that activity ADL provide a natural support for LDB at all times. If teachers in XR school primary teach ADL regularly, it means they are doing the right thing, to promote good health among LDB.

**Stimulation of tactual senses**

The finding, with respect to how educational resources are used proves the extent to which tactual senses of LDB are enhanced. One of the participant states, and quote:

> *Somo hili ni muhimu sana kwa watoto viziwi wasioona kwa sababu ndo linawasaidia kujua namna na kutumia lugha alama mguso, pia kusoma braille na hata kuwasiliana na walimu, wanafunzi wenzao hata jamii wanazotoka* (TR4).

> *[This lesson is especially important for deafblind children who do not see and hear because it helps them know how to use tactile language, as well as to read braille and even communicate with teachers, classmates, even the communities they come from]*(TR4).

The finding here is important as far as improving teaching of LDB in XR primary school is concerned. The finding agrees with that of Reed *et al.* (2019), who point out how beneficial it is for LDB to be introduced to viability of decoding skills (phonemic) based approach for conveying a speech through tactile senses. Another finding shows that stimulation of fingers enables LDB to learn Braille and tactual sign language. One participant states and quote:

> *Wengi wa wanafunzi hawa wanapokuwa nyumbani hawafanyi kazi yeyote wengine wamedekezwa na wengine wanakuwa wamefungiwa ndani tu. Unakuta hata mikono na vidole vyao havijazoweya kushika kitu kwa hiyo huwa tunaanza na kuwapa mazoezi ya kushika vitu mkononi kusisimua vidole vyao ili iwe rahisi kuwafundishia kusoma maadishi ya wasiiona au lugha ya alama* (TR3).

> *[Many of these students when they are at home do not work at all, some of whom have been bullied and some are just locked inside. You find even their hands and fingers are not used to holding something so we tend to start by giving them the practice of holding things in*

*their hands to move their fingers to make it easier for them to read braille or tactual sign language]* (TR3).

The finding indicates that LDB are trained to touch and hold things to stimulate their senses to read braille and tactual sign language. This finding is crucial as far as stimulation of tactual senses for improving teaching of LDB in XR primary school is concerned. This finding agrees with that of Chou *et al.* (2022), who point out that finger stimulation improves tactual sense of LDB. It is important for teachers in XR primary school to continue stimulating fingers of LDB, if they are to achieve maximum communication in Braille and to use tactual sign language effectively for LDB in XR primary school. In the next section, presentation is on the finding is concerning how educational resources are being used for LDB shows that physical exercise games and sports.

**Game and sports**

One of the participants' states, and quote:

> *Watoto hawa wenye ulemavu wa kutosikia na kuona wana haki sawa kama watoto wasio na ulemavu. Hivyo hapa shuleni tuna vifaa vya michezo kama vile mipira na kuruka kamba ili kuwafanya wafurahi, kujenga ushirikiano na kuimarisha viungo vyao kupitia michezo* (TR5).

> *[These children with deaf blindness have the same rights as children without disabilities. So, at school we have sports equipment such as balls and jumping ropes to make them happy, build partnerships and strengthen their physical body through sports]* (TR5).

The finding, regarding how educational resources are used reveal that games and sports help to keep one's body healthy and improve to boost the immunity as well. The finding agrees with that of Cornelius *et al.* (2020), who assert that physical activities through games and sports exercises help to increase body immunity for human beings. It is very important for teachers in XR primary school to adopt games and sports to improve the health of LDB, for it is a practice that had been

43

taken for granted as such. With regard to the sources of educational resources, one of the participants' states, and quote:

> Tunapata vifaa vya kufundishia kwanza toka serikalini, pili kutoka kwa wafadhili au wadau mbalimbali wa elimu (TR1).

> [We get educational resources first from the government, secondly from various education donors or stakeholders] (TR1).

Another finding concerning sources of educational resources shows that some of the sources come from government and other stakeholders. The finding here is significant as far as improving the availability of educational resources. This finding agrees with that of Ji *et al.* (2021) who assert that it is an obligation for a government to be supportive of its individuals with disabilities, to get what they deserve to get, since education is a right and not a privilege to such individuals. One participant reacting to this states and quote:

> Tunapata vifaa vya kufundishia kutoka kwenye mazingira na vingine tunatengeneza na baadhi tunanunua madukani kulingana na mahitaji ya wanafunzi (TR3).

> [We get teaching materials from the environment and some we make and some we buy in stores according to the needs of the students] (TR3).

The findings show that educational resources for LDB are locally prepared. The findings, concerning accessibility of educational resources, reveal that local educational resources are available within school environments and others are prepared by teachers according to the needs of LDB. This finding here is significant as far as the source of educational resources XR primary school is concerned. The findings here agree with that of Asrial *et al.* (2021), who suggest that educational resources based on local culture foster character in learners and competencies. Sources of educational resources are often a key to successful teaching everywhere on the planet. Teachers

in XR primary school can adopt effective use of both industrial and local educational resources in the teaching process to improve the academic progression of LDB.

Regarding improvement of teachers' teaching skills, a finding indicates that teachers had been attending special needs training. One of the participants states, and quote:

> *Nimepata mafunzo ya kufundisha watoto wenye ulemavu toka Chuo cha Ualimu Patandi (TR2).*
>
> *[I have been trained to teach children with disabilities from the Patandi Teachers College]*(TR2).

The finding reveals that all the concerned teachers attended in special needs education courses. The finding is significant as far as improving teaching for LDB in XR primary school is concerned. The finding agrees with that of Chache and Mwaikokesya (2017), who assert that training of teachers of learners with disabilities and orienting them enable them cover broad curricular contents. In teaching LDB teachers in XR primary school may call for more training in the field of deaf blindness.

Another finding shows that no training had taken place for tactual preparation for teaching LDB. One of the participants states, and quote:

> *Sijapata mafunzo yoyote juu ya uandaaji wa vifaa mguso na kifaa kinaweza kuwepo lakini pia labda tuseme yule mwalimu wake wa kumwelekeza mwanafunzi namna ya kutumia kile kifaa ni wachache na yeye anakiona hajui jinsi gani atakitumia hawezi kwa hiyo upatikanaji wa mwalimu wa kumwelekeza mwanafunzi namna gani ya kutumia kile kifaa ndiyo changamoto (TR1).*
>
> *[I haven't had any training on the preparation of tactual devices and the device can exist but also maybe let's say his teacher instructing the learner how to use the device are few and he or she sees it he doesn't know how to use it, he can't so the teacher's access to instruct the student how to use the device is a challenge]* (TR1).

The finding here is significant as far as improving teaching LDB in XR is concerned. This finding agrees with that of Yu (2020), who suggests that teachers' prepared can be enhanced through online training. The preparation of tactual educational resources is a key success in effective teaching of LDB. The administration in XR primary school have a great task to procure more local materials so as to enable teachers to get well prepared on the use of tactile educational resources for LBD. One of the participant states, and quote:

> *Mafunzo nilipata lakini yamekuwa ya muda mrefu kutegemea na wakati kwa wakati huu unaweza ukawa umekaa hujapata miaka yako mitano hujapata tena semina yoyote kwa ujuzi wako unakuwa ni wa zamani. Walimu wengi hatujui kutumia computer na vifaa vya kisasa* (TR1).

> *[The training I've had but it's been a long time depending on and at this time you may be sitting you haven't had your five years you've never got any of the seminars with your skills you're old. Most teachers don't know how to use computers and modern devices]* (TR1).

The finding here is significant as far as improving teaching of LDB in XR primary school is concerned. The finding here agrees with that of Adetayo (2016), who suggests that the professional competencies of teachers help to boost their morale, commitment and attitudes.

There is yet, another finding that reveals that old and worn-out educational resources are retrieved, reconditioned and used. One of the participant states, and quote:

> *Kwa kweli vifaa mguso vingi tunavyotumia kufundisha watoto ni vya zamani sana na vimechakaa. Zamani tulikuwa tunapata vifaa kutoka kwa wafadhili lakini sasa hakuna, tunatamani tupate vifaa vya kisasa lakini hatuna uwezo wa kuvinunua kwa kweli tunahitaji vifaa vya kisasa* (TR3).

> *[Many of the tactual tools we use to teach children are very old and worn out. Long ago we used to get equipment from donors but now we don't get it, we wish we could get modern equipment but we can't afford to buy them we need modern equipment]* (TR3).

The finding here is significant as far as improving teaching LDB in XR primary school is concerned. The finding agrees with that of Arenas and Palaoag (2018), who assert that changes in shifting from use of old and worn-out materials to modern ones are inevitable to keep learners abreast and to catch up with modern technological changes and advancement. The administrations in XR primary school have all it takes to ensure that LDB in their school are helped to go by new changes, no matter what.

The next finding concerns teachers' experiences in teaching LDB. The finding is significant as far as improving teaching LDB in XR primary school is concerned. This finding agrees with that of Lane *et al.* (2019), who assert that teachers' experiences add value to learning and mastery of content by LDB in class. In the next section, presentation will focus on Objective.

**Data analysis and findings on Objective Three, under category A (Teachers)**

Objective Three was meant to examine challenges faced by teachers in using educational resources in teaching LDB.

The findings include: inadequate funding, limited knowledge and skills, inadequate educational resources, large number of learners, an unfriendly teaching environment, performance pressure, family problems, lack of effective communication, ineffective teaching methods, poor motivation of LDB, negative attitudes of the society and poor health condition of LDB

**Inadequate funding**

One of the findings reveals that there is a usually inadequate fund meant for purchasing educational resources in the school, to strengthen teaching of LDB. One of the participants states, and quote:

*Zipo changamoto mbalimbali mfano ukosefu wa fedha za kununulia vifaa stahiki, pia tuna ukosefu wa vifaa vyenyewe tunavyovitumia kwa ufundishaji pia kuna ukosefu wa ujuzi wa kutumia vifaa hivyo ambavyo unaweza ukawa unavyo mfano hearing aid wakati wa ujifunzaji unakuta mwalimu hawezi kuitumia pia upo ujuzi mdogo kwa walimu wa viziwi wasioona* (TR1).*

*[There are various challenges such as the lack of funds to purchase appropriate equipment, we also have a lack of equipment to use for teaching and there is also a lack of skills to use the equipment that you can use for example when learning is that the teacher cannot use it and there are also little skills for teachers for the learners with deaf blindness]* (TR1).

The finding is significant for XR primary school, in that whenever the management plans for other categories of learners in the school, the LDB must not be ignored. The finding agrees with that of Biglan *et al.* (2020), who argue that lack of funding has both direct and indirect effects on successful implementation of successful teaching and learning in any school.

**Limited knowledge and skills**

A finding on limited knowledge and skills on the use of tactile educational resources in teaching LDB causes more harm than good. One of the participants states, and quote:

*Kwa kweli pamoja na kuwa nimepata mafunzo ya kufundisha watoto wenye ulemavu ni muda mrefu sana nahitaji angalau mafunzo mafupi ya namna ya kutumia vifaa vya kisasa vya kufundishia watoto viziwi wasioona* (TR5).

*[In fact, although I have been trained to teach children with disabilities it is very long, I need at least a short training on how to use modern teaching materials for learners with deaf blindness]* (TR5).

Another finding on limited knowledge and skills reveals that teachers always keep gambling whenever they try to teach LDB. This finding agrees with that of McKittrick (2020), who claims that most teachers rely on good will, but that they severely lack professional knowledge and skills to teach LDB. Trained and skilled teachers are a key to success in effective teaching LDB anywhere, XR primary school inclusive. Teachers who have enough experience in XR primary

should take time to help fellow teachers. The government should conduct in-service training to use professionals from Patandi Teachers College of Special needs education to update teachers on interventions of LBD.

## Inadequate educational resources

One of the findings reveals that XR primary school lacks adequate tactual educational resources for teaching LDB. One of the participants states, and quote:

> *Kwa sasa hatuna vifaa mguso vya kutosha kwa kufundishia watoto viziwi wasioona* (TR4).

> *[At the moment we do not have enough touch tools to teach learners with deaf blindness]* (TR4).

This finding is significant as far as improving teaching LDB in XR primary school is concerned. The finding agrees with that of Matete (2016), who asserts that a shortage of educational resources affects the process of teaching, which eventually affects the quality of children's learning.  It is important that XR primary school adopts and procures adequate tactual educational resources improve on the quality of learning by LDB.

The finding on the availability of some tactual educational resources reveals that they types used include: embossers and computers. One of the participant states, and quote:

> *Vifaa mguso vilivyopo ndio vinatumika kikamilifu kulingana na mahitaji ya mtoto mwenye ulemavu. Lakini vingine havitumiki tokana na kuwa vimechakaa sana inakuwa ni vigumu hata kumfundishia mwananafunzi. Tuna Braille embosers, shime sikio, kompyuta na printa kwa ajili ya kukuzia ukubwa wa maandishi kwa wenye uoni hafifu na emboser kwa ajili ya wanafunzi wanaotumia Braille, wakati wa mitihani au mazoezi* (TR3).

> *[The existing tactual equipment are fully used according to the needs of the child with a disability. But some are not used because they are so worn out it is difficult to even teach a student. We have Braille embossers, hearing aid, computers and printers for printing text*

*size with large fonts for visually impaired and embosser for students who use Braille printed papers, during examinations or tests]* (TR3).

The finding, concerning effective use of educational resources reveals that in XR primary school, teachers do use worn-out tactile educational resources. That, Braille embossers are used to duplicate Braille prints. That, computers and printers are used to print large prints fonts for learners with partial sightedness. That, hearing aids is used for some pupils with partial deaf blindness. These finding are significant as far as improving teaching of LDB in XR primary school is concerned. The finding agrees with that of Kiliçkaya (2016), who asserts that teachers not only deliver educational resources to learners but also guide learners in their learning experience. Effective use of educational resources motivates learners and enables them to master the content they are taught with minimum difficulty.

**A large number of learners**

A finding on teacher pupil ratio in class, reveals that teachers face big numbers of pupils in class. One of the participants' states, and quote:

> *Idadi ya wanafunzi ni kubwa na walimu hatutoshi, kwa sababu kiziwi asiyeona anafundishwa kwa uwiano wa mwalimu mmoja na mwanafunzi mmoja. Lakini kwa sasa tunafanya kazi mwalimu mmoja na wanafunzi 6 mpaka 7 kwa kweli ni changamoto* (TR5).
>
> *[The number of students is high and teachers are not enough, because the deaf who does not see is taught in proportion to one teacher and one student. But at the moment we're working one teacher with 6 to 7 students it's really a challenge]* (TR5).

The big number LDB in class is found to affect the quality teaching and learning in XR primary school. The finding agrees with that of Yuwono and Okech (2021), who point out that a large number of learners for few teachers pose a serious challenge to their ability to control and to effectively deliver the contents. It is important for the administration in XR primary school to

embark on training more teachers in special needs education to meet the increasing number of

LDB.

**Teaching environment**

A finding concerning the status of environment reveals that all is wanting and unfriendly. One of

the participants states, and quote:

> *Mazingira siyo rafiki kufundisha watoto wenye ulemavu kwa sasa kwa sababu hayakidhi vigezo muhimu. Tunaomba serikali itusaidie kuyarekebisha ili yaendane na mahitaji ya watoto wenye ulemavu* (TR3).
>
> *[The environment is not friendly to teach children with disabilities at the moment because they do not meet the necessary criteria. We urge the government to help us reform them to suit the needs of children with disabilities]* (TR3).

The finding, concerning the teaching environment for LDB, reveals that the environment is all

always unfriendly. The finding is significant as far as improving the teaching in XR primary school

is concerned. The finding agrees with that of Misseyanni *et al.* (2020), points out that unfriendly

environment poses challenge to effective teaching and learning, especially to LDB. It is the

responsibility of the administration for XR primary school to adopt modifications of environment,

if academic performance of LDB has to improve.

One of the participants states, and quote:

> *Mazingira naweza kusema ndiyo yaani hamsini kwa hamsini kwa sababu naamini kuna mazingira ambayo wale watoto wakiwepo asilimia mia moja utakawa umekamilisha malengo yao lakini kwa mazingira yetu bado siyo mazuri* (TR2).
>
> *[The environment I can say yes moderate because I believe there is an environment in which those children, at one hundred per cent, have completed their goals but in our environment, it is still not good]* (TR2).

The finding agrees with that of UNESCO (2015), which recommends adequate provision of: adequate and quality infrastructures, equipment, educational resources and trained teachers for a better service to LDB.

**Lack of effective communication**

One of the findings shows that lack of tactual communication poses a serious challenge in teaching LDB. One of the participants states, and quote:

> *Watoto viziwi wasioona wanategemea kuwasiliana kwa kutumia lugha ya alama mguso. Hivyo maelekezo yote lazima yaambatane na matumizi ya lugha ya alama mguso inapotokea mwalimu anashidwa kumwelezea vizuri mwanafunzi kwa lugha ya alama mwanafunzi hatoelewa chochote* (TR2).

> *[Learners with deaf blindness use tactual sign language. Therefore, all instructions must be accompanied by the use of tactile sign language when the teacher is unable to properly describe the student in tactile sign language the student will not understand anything]* (TR2).

The finding here is significant for improved teaching in XR primary school. The finding agrees with that of Wahlqvist *et al.* (2020), who emphasizes the importance of development of a strong communication for interacting with individuals with deaf blindness. It is important to organize regular tactual sign language training to enable LBD and teachers to communicate easily.

**Ineffective teaching methods**

A finding teaching methods suitable for LDB indicates that some teachers are ineffective in the use of varied types of teaching methods suitable for teaching LDB in XR primary school. One of the participants states, and quote:

> *Mwalimu asipozingatia miongozo na kanuni za ufundishaji hata mwanafunzi hataelewa kile anachofundishwa na mwalimu darasani* (TR1).

> *[If a teacher does not comply with teaching guidelines and principles even to the student, he or she will not understand what the teacher is taught in the classroom]* (TR1).

The finding agrees with that of Chilanda (2020), who asserts that poor methods of teaching leads to poor academic performance. The finding agrees with that of Philominraj *et al.* (2021), who points out that ineffective methodologies used by most teachers are not adequate to favour learners reach acceptable level of proficiency. Teachers in XR primary school have all it takes to vary the methods they use for improvement of learning by those LBD.

**Poor motivation**

A finding on motivation indicates that, poor motivation reduces interest for LDB, and prevents them from performing well in academic achievement. One of the participants states, and quote:

> *Motisha hasi kwa mwanafunzi humfanya ashindwe kujifunza kikamilifu katika masomo yake ya kila siku* (TR3).

> *[Negative motivation for the student makes him unable to fully learn in his or her daily lessons]* (TR3).

This finding is significant for improving teaching LDB in XR primary school. The finding agrees with that of Sumardi (2020), who asserts that lack of guidance to LDB by teachers and parents to the situations that can lead to their motivation, renders the learners, in many cases helpless and unmotivated.

**Poor health condition**

One of the findings reveals that some LDB face challenges in the health conditions they lead. One of the participants' states, and quote:

> *Wakati mwingine watoto hawa wenye ulemavu wanapata changamoto za kiafya hali ambayo huwafanya muda mwingi kupata matibabu hospitalini na wakati huo wanakosa kuhudhuria vipindi darasani* (TR1).

> *[In some cases, these children with disabilities face health challenges, which makes them most of the time to get treatment in the hospital and at the same time they are unable to attend classes in the classroom]* (TR1).

The finding, concerning health conditions reveals that some LDB face health challenges that interfere with their academic performance.  The finding here is significant as far as improving teaching for XR primary school is concerned. The finding agrees with that of Homberg and Stock-Schröer (2021),  who have noted that individuals who exhibit lower level of health status always perform poorly in their academic work. It is the responsibility of XR primary school teachers to support LBD with poor health to gain some strength and relief on their condition so as to catch up with their academic performance.

**School dropout**

The finding reveals that there is an increase in school dropping out among LDB. That, such dropping out is due to less use of educational resources that help to stimulate learning of these category of learners in XR primary school. One of the participants states, and quote:

> *Kama ufundishaji hatumii zana za kufundishia humfanya mwanafunzi asipende kuhudhuria shule na wakati mwingine huamua kuwa mtoro au  kuacha shule kabisa* (TR5).

> *[If teaching does not use teaching tools it makes the student loose interested in attending school and sometimes decides to become a bully or drop out of school altogether]* (TR5).

The finding, concerning challenges faced by LDB indicates that dropouts. This finding here is significant as far as improving teaching for the primary school XR is concerned.  The finding here agrees with that of Sobngwi-Tambekou *et al.*, (2022) who emphasize that dropping out of school put learners with deaf blindness more at risk of unsafe health behaviours.  Teachers in XR to engage LDB in effective use of educational resources and application of the rapidly expanding choices to identify the learners needs.

**Data analysis and findings on Objective One - under category B (Head teacher)**

Objective One was meant to find out the suitability of educational resources in teaching LDB in XR primary school.

A finding on academic performance by LDB in XR primary school has been reducing over the years. That, this is attributed to lack of use of suitable educational resources for teaching this category of learners. One participant states, and quote:

> *Mwalimu anapotumia vifaa vya kufundishia huwafanya wanafunzi kufanya vizuri katika taaluma yao* (TR3).

> *[When a teacher uses educational resources, he/she makes students perform well in their academic achievement]* (TR3).

The finding here is significant as far as improving teaching for LDB in XR primary school. This finding agrees with that of Adebayo *et al.* (2020), who assert that educational resources have big impact on the successful learning of students with learning disabilities. Having noted the findings concerning Objective One, in the next section, presentations are with respect to issues raised in Objective Two.

**Data analysis and findings on Objective Two - under category B (Head teacher)**

The findings focus on orientation and mobility training.

**Orientation and Mobility**

The finding shows that training LDB in XR school on orientation and mobility is not supported with suitable educational resources. One of the participants states and quote:

> *Kwa uzoefu wangu, mara nyingi watoto hawa wanapoletwa shuleni kwa mara ya kwanza huwa hawezi kutembea kwa uzoefu kwamba walikotoka walikuwa wamefungiwa ndani. Hivyo ni jukumu letu kuwafundisha kutembea kutoka sehemu moja hadi nyingine. Mfano kutoka darasani kwenda bwenini, kwenda bwalo la chakula, bafuni na mahali pengine katika eneo la shule* (TR3).

*[In my experience, often when these children are brought to school for the first time, they are unable to walk through the experience that where they came from, they were locked inside. It is our responsibility to teach them to walk from one place to another. Example from class to boarding, going to a dining hall, bathroom and elsewhere in the school area]* (TR3).

The finding here is important as far as improving teaching for XR primary school. This finding agrees with that of Belyakov *et al.* (2021), who points out that orientation and mobility are vital to reinforce LDB self-reliance and independence.

**Data analysis and findings on Objective Three under category - B (head teacher)**

. The finding on this object focuses on funding

The finding reveals that lack of adequate funding on educational resources creates difficulties in providing effective teaching and learning of LDB in XR primary school. One of the participants states, and quote:

*Wanafunzi wanapata changamoto zifuatazo kwanza upatikanaji wa vifaa hivyo tokana na vifaa vingi hupatikana kwa kutumia fedha, kwa hiyo upatikanaji wa fedha unakuwa ni mgumu, pia walimu wanakosa elimu ya kutosha kwa kutumia vifaa hivyo kwa mfano kompyuta* (TR3).

*[Learners face the following challenges first with access to these devices because many devices available we use money to buy them. Therefore, access to funding becomes difficult, teachers lack adequate education to use the devices, such as computers]*(TR3).

The finding on lack of funding on educational resources means that LDB in XR primary school have to achieve low academic performance. The finding here agrees with that of Aagaard *et al.* (2020), claim that funding for educational resources is a crucial measure that cannot be postponed in a school.

**Data analysis and findings on Objective One under category C (LDB)**

Objective One was meant to examine the importance of educational resources in teaching LDB.

The major finding on observation indicates that LDB have minimal participation in classroom activities. The findings to this category of learners were obtained through observation of classroom and outside activities.

**Low Participation**

 The findings' concerning observation reveals that there is low participation of LDB in classroom activities. This finding is crucial as improving teaching for LDB in XR primary school is concerned. The finding agrees with that of Nelson *et al.* (2014), who note that LDB experience stress and that this affects their behaviours and participation in classroom activities.

**Data analysis and findings on Objective Two under category - C (LDB)**

**Game and sports**

Objective Two was meant to analyze how educational resources for LDB are used.

A finding on this reveals that there is minimum participation in games and sports. A kind of a game observed was rolling a ball to each other. This finding is significant as far as improving teaching, interaction and use of educational resources for LDB in XR School is concerned. The finding agrees with that of Cornelius *et al.* (2020), who suggest that participation of learners based on physical activity provides opportunities for LDB to learner better.

**Data analysis and findings on Objective Three under category - C (LDB)**

**Large number of LDB**

Objective Three was meant to examine the types of challenges faced by teachers in teaching LDB. One of the findings reveals that there is always large number of LDB for one teacher (ration 1 teacher: for 6 or 7 pupils). Teaching ratio for LDB is one teacher for one LDB. The finding shows that one teacher teaches 6 to 7 LDB. That such a ratio gives a teacher a heavy load of work, since LDB are not easy to teach. This finding is crucial as far as improving teaching for LDB in XR

primary school is concerned. The finding agrees with that of Hanafi and Abuzar (2021), who points out that teachers in public schools are always overloaded with unrealistic teacher: pupil ratio, which always virtually hard to control.

**General comments on the findings from the category - A (Teachers)**

Objective One was meant to find out the importance of educational resources in teaching LDB. One of the findings reveals the measures taken to reduce school dropping out among LDB in XR primary school. The finding is significant in that it reveals what ought to be done to improve on the use of educational resources in teaching LDB in XR primary school.

**General comments on the findings from the category A (Teachers)**

Objective Two was meant to examine how educational resources are being used in teaching LDB. The findings were similar to all teachers. The findings emphasize printing of large prints and Braille prints during examinations time, stimulation of tactual senses and games and sports.

Having noted the general comments on the findings on Objective Two under category A (Teachers), the next presentations are general comments on Objective Three under category A (Teachers).

**General comments on the findings from the category A (Teachers)**

Objective Three was meant to examine challenges which teachers face in using educational resources in teaching LDB. The challenges include: inadequate funding, limited knowledge and skills, inadequate educational resources, large numbers of LDB, unfriendly teaching environment, lack of effective communication, ineffective teaching methods, poor motivation of LDB, negative attitudes of the society, poor health of LDB, misinterpretation of a subject matter, LDB low self-esteem, and LDB school dropping out, among other things.

**General comments on the findings from the category B (Head Teacher)**

Objective One was meant to examine the importance of educational resources in teaching LDB. The findings show the different factors that influence academic performance by LDB in XR primary school. This was similar to teachers and LDB.

**General comments on the findings from the category - B (Head teacher)**

Objective Three was meant to examine challenges teachers face in using educational resources in teaching LDB in XR primary school. The major finding similar among the participants is to do with inadequate funding to support effective teaching of LDB in XR primary school.

**General comments on the findings from the category C (LDB)**

Objective One was meant to find out the importance of educational resources to LDB

The observation findings showed low participation of LDB in classroom activities. This was similar to teachers' findings.

**General comments on the findings from the category - C (LDB)**

The objective Two was meant to examine how educational resources are used in teaching LDB in XR primary school. The most similar findings among the different participants reveal that LDB have the potential to participate in games and sports.

**General comments on the findings from the category C (LDB)**

Objective Three was meant to examine challenges teachers face in using educational resources in teaching LDB in XR primary school. These findings are similar among the three categories of the participants of the study.

# CHAPTER FIVE

## SUMMARY, RECOMMENDATION AND CONCLUSION

### 5.1 Introduction

This chapter presents summary, conclusions and recommendations. These presentations are in line with the study objectives.

### 5.2 Summary of the findings

The findings reveal that educational resources improve academic performance of LDB and increase general school pass rates. The study findings also reveal that when educational resources are used effectively the result is that they help to reduce school dropping out among LDB. The study findings further reveal that teaching without using educational resources causes misinterpretation of the lessons, low self-esteem and school dropout among LDB.

Other findings reveal the methods of using the available educational resources. This includes demonstration of the use of different types of educational resources that, each of the materials serve different purposes and are therefore to be used according to the ways the manufacturers have recommended.

Other findings reveal that teachers are faced with several types of challenges. These include inadequate funding, limited knowledge and skills, inadequate educational resources, large numbers of LDBs, unfriendly teaching and learning environment, infective communication, infective teaching methodology, poor motivation of LDBs, poor health conditions of LDBs and school dropout.

**5.3 Conclusions**

Basing on the study findings, relevant conclusions are hereby drawn, basing on the study objectives. Regarding Objective One, it is concluded that the school management has the responsibility to support teachers to be creative, pro-active and capable of providing relevant educational resources that motivate and promote teaching and learning of LDBs.

As for Objective Two, it is concluded that well trained teachers are able and capable of supporting and promoting successful teaching and learning of LDB.

With respect to Objective Three, it is concluded that easy success in the teaching and learning of LDB currently faces formidable challenges these challenges include: inadequate funding, inadequate knowledge and skills by teachers of LDB, inadequate educational resources and large number of learners per teacher.

**5.4 Recommendations**

Based on the findings and conclusions of the study, the followings t recommendations are strictly based on the study objectives it was felt important to add suggestions for improvement on the study findings. These suggestions are based on relevant data that were not necessarily captured from the empirical study (Interview). They are as follow:

1. The school management should support teachers to be creative, pro-active and capable of producing educational resources which in the end motivate and enable LDB to succeed in their education.

2. Teachers should be trained to gain up to date skills of using the different available educational resources so that in the end they acquire the ability and skills in demonstrating to LDB how to operate them.

3. Government should address the current challenges affecting successful teaching and learning of LDB. These challenges include: inadequate funding, inadequate knowledge by teachers on teaching LDB, inadequate educational resources, and large number of learners in class.

The above recommendations are in accordance with the study findings and conclusions. During the study, numerous other data were identified, though not directly emerging from the participants, they were noted to be relevant to include in order to strengthen the study. These are listed under suggestions.

**Suggestions for the further improvement of the study**

The following are the suggestions made besides the study recommendations:

1. The government through the ministry of education, science and technology should allocate enough fund to resolve the shortage of educational resources

2. The School Management Committee (SMC) should procure modern educational resources and train teachers how to use them.

3. The SMC should improve the school environment to smooth the process of teaching and learning.

4. The Dar es Salaam City Authority (DCA) and SMC should collaborate to train more teachers in the field of special education.

5. The SMC should conduct regular guidance and counselling within the community in order to reduce the negative attitude towards LDB

6. The use of educational resources for LDB should be adopted as part of teachers' competence in the teaching and learning process for LDB.

**New knowledge contributed through this study**

Attention is hereby drawn to the reader of this  research study is that the following is the new knowledge contributed  through the study:

1.  That, school management is a key behind good success of teaching and learning  of LDB

2.  That, well trained teachers with the relevant knowledge and skills are the key to success of the teaching  and learning of LDB.

3.  That,  adequate funding, educational resources and appropriate teachers  and learner's ratio are all factors that promote teaching and learning of LDB.

REFERENCES:

Aagaard, K., Kladakis, A., & Nielsen, M. W. (2020). Concentration or dispersal of research funding? *Quantitative Science Studies*, *1*(1), 117–149. https://doi.org/10.1162/qss_a_00002

Abazaoğlu, İ., & Aztekin, S. (2016). The Role of Teacher Morale and Motivation on Students' Science and Math Achievement: Findings from Singapore, Japan, Finland and Turkey. In *Universal Journal of Educational Research* (Vol. 4, Issue 11). https://doi.org/10.13189/ujer.2016.041114

Acosta, C. O., Palacio, R. R., Cortez, J., Echeverría, S. B., & Rodríguez-Fórtiz, M. J. (2022). Effects of a cognitive stimulation software on attention, memory, and activities of daily living in Mexican older adults. *Universal Access in the Information Society*, *21*(1), 21–31. https://doi.org/10.1007/s10209-020-00742-7

Adebayo, K. A., Ntokozo, N., & Grace, N. Z. (2020). Availability of Educational Resources and Student Academic Performances in South Africa. *Universal Journal of Educational Research*, *8*(8), 3768–3781. https://doi.org/10.13189/ujer.2020.080858

Adetayo, J. O. (2016). Teachers' Factors as Determinants of the Professional Competence of the Nigeria Certificate in Education (NCE) Teachers. *Journal of Education and Practice*, *7*(20).

Alcivar, C. M. M. (2020). The motivation and its importance in the teaching-learning process. *International Research Journal of Management, IT and Social Sciences*. https://doi.org/10.21744/irjmis.v7n1.832

Alhadabi, A., & Karpinski, A. C. (2020). Grit, self-efficacy, achievement orientation goals, and

academic performance in University students. *International Journal of Adolescence and Youth*, *25*(1), 519–535. https://doi.org/10.1080/02673843.2019.1679202

Alrahlah, A. A. (2016). The impact of motivational factors on research productivity of dental faculty members: A qualitative study. *Journal of Taibah University Medical Sciences*, *11*(5), 448–455. https://doi.org/10.1016/j.jtumed.2016.06.006

Amarin, N., & Al-Saleh, A. (2020). The effect of color use in designing instructional aids on learners' academic performance. *Journal of E-Learning and Knowledge Society*, *16*(2), 42–50. https://doi.org/10.20368/1971-8829/1135246

Anderson, S., Manion, C., Drinkwater, M., Chande, R., & Galt, W. (2019). Looking for learning in teacher learning networks in Kenya. *Journal of Professional Capital and Community*, *4*(2), 124–146. https://doi.org/10.1108/JPCC-07-2018-0020

Arenas, M. R., & Palaoag, T. D. (2018). Gamified learning system: A motivation for exceptional learners of SPED-baguio for better engagement. *Journal of Advanced Research in Dynamical and Control Systems*, *10*(11).

Arlinwibowo, J., & Retnawati, H. (2015). Developing Audio Tactile for Visually Impaired Students. *International Journal on New Trends in Education and Their Implications*, *6*(4), 18–30.

Ary, D., Jacobs, L. C., & Razavieh, A. (2010). Introduction to research in education 8th edition, Wardswoth Cengage Learning. *Canada: Nelson Education Ltd Exotic Classic*.

Asrial, A., Syahrial, S., Maison, M., Kurniawan, D. A., & Putri, E. (2021). Fostering Students'

Environmental Care Characters Through Local Wisdom-Based Teaching Materials. *JPI (Jurnal Pendidikan Indonesia)*, *10*(1), 152. https://doi.org/10.23887/jpi-undiksha.v10i1.27744

Baines, J. T., Taylor, C. N., & Vanclay, F. (2013). Social impact assessment and ethical research principles: Ethical professional practice in impact assessment Part II. *Impact Assessment and Project Appraisal*, *31*(4), 254–260. https://doi.org/10.1080/14615517.2013.850306

Belyakov, V. V, Mazunova, L. N., & Markovnina, A. I. (2021). Mobility of ground transport and technological vehicles. *IOP Conference Series: Materials Science and Engineering*, *1086*(1), 012001. https://doi.org/10.1088/1757-899x/1086/1/012001

Beveridge, W. E. (2021). What is an Interview? In *Problem Solving Interviews* (pp. 14–25). Routledge. https://doi.org/10.4324/9781003153351-2

Beyene, W. M., Mekonnen, A. T., & Giannoumis, G. A. (2020). Inclusion, access, and accessibility of educational resources in higher education institutions: exploring the Ethiopian context. *International Journal of Inclusive Education*. https://doi.org/10.1080/13603116.2020.1817580

Biglan, A., Bonner, A. C., Johansson, M., Ghai, J. L., Van Ryzin, M. J., Dubuc, T. L., Seniuk, H. A., Fiebig, J. H., & Coyne, L. W. (2020). The state of experimental research on community interventions to reduce greenhouse gas emissions-A systematic review. In *Sustainability (Switzerland)* (Vol. 12, Issue 18). MDPI AG. https://doi.org/10.3390/su12187593

Bjorg, R. T. (2016). Teachers' of students with visual impairments perceptions and experiences of teaching the expanded core curriculum [The University of North Dakota]. In *ProQuest*

*Dissertations and Theses*. https://search.proquest.com/dissertations-theses/teachers-students-with-visual-impairments/docview/1862015983/se-2?accountid=41849

Boakye, C., & Ampiah, J. G. (2017). Challenges and Solutions: The Experiences of Newly Qualified Science Teachers. *SAGE Open*, *7*(2). https://doi.org/10.1177/2158244017706710

Bombardelli, O. (2020). Inclusive education and its implementation: International practices. *Education and Self Development*, *15*(3), 37–46. https://doi.org/10.26907/esd15.3.03

Bostic, J., Lesseig, K., Sherman, M., & Boston, M. (2021). Classroom observation and mathematics education research. *Journal of Mathematics Teacher Education*, *24*(1), 5–31. https://doi.org/10.1007/s10857-019-09445-0

Bryman, A. (2016). Social Research Methods - Alan Bryman - Oxford University Press. In *Oxford University Press*. Oxford University Press. https://global.oup.com/ukhe/product/social-research-methods-9780199689453?cc=gb&lang=en&

Candyce, K., Glaser, H. W., Hasselbring, T. S., & Williams Glaser, C. H. (2017). Use of Computer Technology to Help Students with Special Needs Children with Special Needs-Who Are They? *The Future of Children CHILDREN AND COMPUTER TECHNOLOGY*, *10179241*(2). http://www.futureofchildren.org

Chache, J., & Mwaikokesya, M. (2017). Influence of parental support on child's learning of literacy in Tanzania. In *Papers in Education and Development* (Vol. 35). http://journals.udsm.ac.tz/index.php/ped/article/view/1491/1397

Chilanda, A. (2020). Exploring Whether Physics Teaching Methods Curriculum Content

Addresses Poor Performance of Pupils in Physics: A Case of One Teacher Education University in Kitwe District. *International Journal of Scientific and Research Publications (IJSRP)*, *10*(05), 152–160. https://doi.org/10.29322/ijsrp.10.05.2020.p10118

Chou, Y.-H., Yeh, M.-L., Huang, T.-S., & Hsu, H. (2022). Acupoint stimulation improves pain and quality of life in head and neck cancer patients with chemoradiotherapy: A randomized controlled trial. *Asia-Pacific Journal of Oncology Nursing*, *9*(1), 61–68. https://doi.org/10.1016/j.apjon.2021.11.002

Cohen, L., Manion, L., & Morrison, K. (2017). Research Methods in Education. In *Research Methods in Education*. Routledge. https://doi.org/10.4324/9781315456539

Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability (Switzerland)*, *12*(24), 1–22. https://doi.org/10.3390/su122410367

Cornelius, C., Fedewa, A., & Toland, M. (2020). A classroom-based physical activity intervention for adolescents: Is there an effect on self-efficacy, physical activity, and on-task behavior? *Health Psychology Report*, *8*(4), 408–427. https://doi.org/10.5114/hpr.2020.99002

Correa-Torres, S. M., Bowen, S. K., & Furze, M. (2020). Educators of students who are deafblind in the United States: A snapshot of their perceived needs for teacher preparation programs. *British Journal of Visual Impairment*. https://doi.org/10.1177/0264619620915271

Correa-Torres, S. M., Bowen, S. K., & Furze, M. (2021). Educators of students who are deafblind in the United States: A snapshot of their perceived needs for teacher preparation programs. *British Journal of Visual Impairment*, *39*(2), 175–188.

https://doi.org/10.1177/0264619620915271

Creswell, J. (2013). Qualitative, quantitative, and mixed methods approaches. In *Research design* (pp. 1–26). http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Research+design+-+Qualitative,+Quantitative,+and+mixed+methods+approaches#0

Darling-Hammond, L. (2021). Defining teaching quality around the world. *European Journal of Teacher Education*, *44*(3), 295–308. https://doi.org/10.1080/02619768.2021.1919080

Dixit, B., Bedekar, M., Jahagirdar, A., & Sathe, N. (2021). Role of active learning techniques in development of problem solving skills. *Journal of Engineering Education Transformations*, *34*(Special Issue). https://doi.org/10.16920/jeet/2021/v34i0/157241

Engelbrecht, P. (2019a). The implementation of inclusive education: International expectations and South African realities. *Tydskrif Vir Geesteswetenskappe*, *59*(4). https://doi.org/10.17159/2224-7912/2019/v59n4a5

Engelbrecht, P. (2019b). The implementation of inclusive education: International expectations and South African realities. *Tydskrif Vir Geesteswetenskappe*, *59*(4), 530–544. https://doi.org/10.17159/2224-7912/2019/v59n4a5

Evans, M., & Baillie, L. (2021). Usher syndrome, an unseen/hidden disability: a phenomenological study of adults across the lifespan living in England. *Disability and Society*. https://doi.org/10.1080/09687599.2021.1889981

Farr, B. C. (2008). Designing Qualitative Research. In *Transformation: An International Journal*

*of Holistic Mission Studies* (Vol. 25, Issues 2–3, pp. 165–166). https://doi.org/10.1177/026537880802500310

Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., & Tadeu, P. (2020). Teacher training and ict for students with disabilities: A systematic review. *Revista Brasileira de Educacao Especial*, *26*(4), 711–732. https://doi.org/10.1590/1980-54702020v26e0078

Filgona, J., Sakiyo, J., Gwany, D. M., & Okoronka, A. U. (2020). Motivation in Learning. *Asian Journal of Education and Social Studies*, 16–37. https://doi.org/10.9734/ajess/2020/v10i430273

Gabarró-López, S., & Mesch, J. (2020). Conveying Environmental Information to Deafblind People: A Study of Tactile Sign Language Interpreting. *Frontiers in Education*, *5*. https://doi.org/10.3389/feduc.2020.00157

Gall, M. D., Gall, J. P., & Borg, W. R. (2006). Educational Research: An Introduction, 8th Edition. *Educational An Introduction*, 704.

Gilakjani, A. P., & Sabouri, N. B. (2017). Teachers' Beliefs in English Language Teaching and Learning: A Review of the Literature. *English Language Teaching*, *10*(4), 78. https://doi.org/10.5539/elt.v10n4p78

Ha, H. T. L., Pham, A. T. K., Nguyen, H. T., & Duong, H. T. T. (2021). Training Pedagogical Skills: Evaluation of Lecturers and Teacher Training Students at Educational Universities in Vietnam. *Eurasia Journal of Mathematics, Science and Technology Education*, *17*(12). https://doi.org/10.29333/ejmste/11418

Hanafi, M. R., & Abuzar, W. (2021). Overview of Student Enrolment, Teaching Faculty and Student-Teacher Ratio of Private and Public Universities in Pakistan. *International Journal for Innovation Education and Research*, *9*(5), 722–737. https://doi.org/10.31686/ijier.vol9.iss5.3140

Hancock, M. E., Amankwaa, L., Revell, M. A., & Mueller, D. (2016). Focus group data saturation: A new approach to data analysis. *Qualitative Report*, *21*(11), 2124–2130. https://doi.org/10.46743/2160-3715/2016.2330

Holzer, M., & Schwester, R. W. (2019). Public administration: An introduction. In *Public Administration: An Introduction*. Taylor and Francis. https://doi.org/10.4324/9780429507878

Homberg, A., & Stock-Schröer, B. (2021). Interprofessional Education on Complementary and Integrative Medicine. *Clinical Teacher*, *18*(2). https://doi.org/10.1111/tct.13280

Hossain, M. A., Salam, M. A., & Shilpi, F. (2016). Readiness and Challenges of Using Information and Communications Technology (ICT) in Higher Education of Bangladesh. *The Online Journal of New Horizons in Education*, *6*(1).

Irawan, D. (2017). TEACHING VOCABULARY BY USING REALIA (REAL-OBJECT) MEDIA. *English Community Journal*, *1*(1), 41. https://doi.org/10.32502/ecj.v1i1.650

ITIS. (2022). Integrated Taxonomic Information System (ITIS). *Enciclopedia de La Vida (EOL)*. https://itis.gov

Jaiswal, A., Aldersey, H. M., Wittich, W., Mirza, M., & Finlayson, M. (2020). Meaning and

experiences of participation: a phenomenological study with persons with deafblindness in India. *Disability and Rehabilitation*, *42*(18). https://doi.org/10.1080/09638288.2018.1564943

Ji, M., Zhi, J., & Liu, W. (2021). Research on the balance of university education reform from the perspective of supply-side reform. *Revista de Cercetare Si Interventie Sociala*, *72*, 72–92. https://doi.org/10.33788/rcis.72.5

Johnson, S. G. B. (2017). Cognition as Sense-Making. *ProQuest Dissertations and Theses*, *February*, 306. http://ezphost.dur.ac.uk/login?url=https://search.proquest.com/docview/1951780365?accou ntid=14533%250Ahttp://openurl.ac.uk/ukfed:dur.ac.uk?genre=dissertations+%2526+theses &issn=&title=Cognition+as+Sense-Making&volume=&issue=&date=2017-01-01&atitle=&spage=&aul

Kelantan, M., Zakaria, I., Rahman, A. B., Othman, K. A., Azlina Mohamed Yunus, N., Redhuan Dzulkipli, M., & Akmal Faiz Osman, M. (2018). Cambridge Advanced Learner's Dictionary & Thesaurus. In *Cambridge University Press*.

Kiliçkaya, F. (2016). Use of screencasting for delivering lectures and providing feedback in educational contexts: Issues and implications. In *CALL for Openness* (Vol. 2, pp. 73–90). Peter Lang AG. https://doi.org/10.3726/978-3-653-06756-9

Kola, M. (2021). Pre-service teachers' action research: technology education lesson planning in a South African University. *Educational Action Research*, *29*(1). https://doi.org/10.1080/09650792.2019.1686043

Kononova, N., Shiryaeva, N., Oblasova, I., & Pletuhina, A. (2019). The use of augmented reality technology in the educational process. *CEUR Workshop Proceedings*, *2494*.

Lane, L. J., Jones, D., & Penny, G. R. (2019). Qualitative Case Study of Teachers' Morale in a Turnaround School. *Research in Higher Education Journal*, *37*.

Lantolf, J. P., & Poehner, M. E. (2014). Sociocultural Theory and the Pedagogical Imperative in L2 Education. In *Sociocultural Theory and the Pedagogical Imperative in L2 Education*. Routledge. https://doi.org/10.4324/9780203813850

Lepp, L., Aaviku, T., Leijen, Ä., Pedaste, M., & Saks, K. (2021). Teaching during COVID-19: The decisions made in teaching. *Education Sciences*, *11*(2), 1–21. https://doi.org/10.3390/educsci11020047

Lin, C. T., Chang, S. J., & Chen, Y. H. (2022). Cognitive Learning Assessment Based on FAHP and RSM: A Case Study of Introduction to Network course. *Journal of Educational Computing Research*, *59*(8), 1543–1578. https://doi.org/10.1177/07356331211012685

Maine, A., Brown, M., Dickson, A., & Truesdale, M. (2020). The experience of type 2 diabetes self-management in adults with intellectual disabilities and their caregivers: A review of the literature using meta-aggregative synthesis and an appraisal of rigor. In *Journal of Intellectual Disabilities* (Vol. 24, Issue 2, pp. 253–267). SAGE Publications Ltd. https://doi.org/10.1177/1744629518774172

Martiniello, N., & Wittich, W. (2020). The association between tactile, motor and cognitive capacities and braille reading performance: a scoping review of primary evidence to advance research on braille and aging. *Disability and Rehabilitation*.

https://doi.org/10.1080/09638288.2020.1839972

Martos, A., Kouroupetroglou, G., Argyropoulos, V., & Papadopoulos, K. (2021). Tactile identification of embossed lines and square areas in diverse dot heights by blind individuals. *Universal Access in the Information Society*, *20*(2), 333–342. https://doi.org/10.1007/s10209-020-00729-4

Masoumi, H., van Rooijen, M., & Sierpiński, G. (2020). Children's independent mobility to school in seven European countries: A multinomial logit model. *International Journal of Environmental Research and Public Health*, *17*(23), 1–20. https://doi.org/10.3390/ijerph17239149

Matete, R. (2016). Challenges Facing Primary Education under Decentralisation of Primary School Management in Tanzania. *International Journal of Humanities and Social Science*, *6*(1), 175–184.

McKittrick, L. L. (2020). Strategies that mothers of children who are deafblind employ to foster collaboration within individualized education program teams. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, *81*(2-A), No-Specified. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc16&NEWS=N&AN=2019-68370-040

McLeod, S. (2018). Questionnaire: Definition, Examples, Design and Types. *Website*, 1–18. https://www.questionpro.com/blog/what-is-a-questionnaire/#Characteristics_of_a_Questionnaire%250Ahttps://www.questionpro.com/blog/what-is-a-questionnaire/

Meng, M. (2021). A Learning Object Approach for Designing Information Literacy Instructional Materials. *IASL Annual Conference Proceedings*. https://doi.org/10.29173/iasl8011

Misra, P. K. (2018). *Lifelong Mathematics Learning for Adult Learners and Open Educational Resources* (pp. 269–283). https://doi.org/10.1007/978-3-319-96502-4_15

Misseyanni, A., Lytras, M. D., Papadopoulou, P., & Marouli, C. (2018). Active Learning Strategies in Higher Education : Teaching for Leadership, Innovation, and Creativity. *Emeral Publishing*, *April*, 399.

Misseyanni, A., Marouli, C., & Papadopoulou, P. (2020). How teaching affects student attitudes towards the environment and sustainability in higher education: An instructors' perspective. *European Journal of Sustainable Development*, *9*(2). https://doi.org/10.14207/ejsd.2020.v9n2p172

Murray, J. J., De Meulder, M., & Le Maire, D. (2018). An education in sign language as a human right? The sensory exception in the legislative history and ongoing interpretation of article 24 of the UN convention on the rights of persons with disabilities. *Human Rights Quarterly*, *40*(1), 37–60. https://doi.org/10.1353/hrq.2018.0001

Nafstad, A. V. (2015). Communication as Cure Communicative Agency in Persons with Congenital Deafblindness. *Journal of Deafblind Studies on Communication*, *1*.

Nelson, C., Greenfield, R. G., Hyte, H. A., & Shaffer, J. P. (2014). Stress, Behavior, and Children and Youth Who Are Deafblind. *Research and Practice for Persons with Severe Disabilities*, *38*(3), 139–156. https://doi.org/10.2511/027494813809330243

Nessipbayeva, O. (2019). The Competencies of the Modern Teacher. *Pre-Service and In-Service Teacher Training*, 148–154. http://bit.ly/2fRwNoY

Ngwakwe, C. C. (2014). A review of causes of school dropouts in brics countries: A South African case. *Corporate Ownership and Control*, *12*(1CONT9), 911–914. https://doi.org/10.22495/cocv12i1c9p13

Nuwagaba, E. L., & Rule, P. (2015). Navigating the ethical maze in disability research: ethical contestations in an African context. *Disability and Society*, *30*(2), 255–269. https://doi.org/10.1080/09687599.2014.998333

O'Reilly, M., & Parker, N. (2013). 'Unsatisfactory Saturation': A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, *13*(2), 190–197. https://doi.org/10.1177/1468794112446106

Oeamoum, N., & Sriwichai, C. (2020). Problems and Needs in English Language Teaching from the Viewpoints of Pre-service English Teachers in Thailand. *Asian Journal of Education and Training*, *6*(4), 592–601. https://doi.org/10.20448/journal.522.2020.64.592.601

Onofrei, G., & Ferry, P. (2020). Reusable learning objects: a blended learning tool in teaching computer-aided design to engineering undergraduates. *International Journal of Educational Management*, *34*(10), 1559–1575. https://doi.org/10.1108/IJEM-12-2019-0418

Patton, M. Q. (2002). Qualitative research and evaluation methods. In *Qualitative Inquiry* (Vol. 3rd). https://doi.org/10.2307/330063

Philominraj, A., Ranjan, R., Saavedra, R. A., & Urzúa, C. A. C. (2021). English as foreign

language teaching in high schools: A Chilean case study. *International Journal of Learning, Teaching and Educational Research*, *20*(3), 51–67. https://doi.org/10.26803/ijlter.20.3.4

POSSI, M. K., & MILINGA, J. R. (2017). Special and Inclusive Education in Tanzania: Reminiscing the Past, Building the Future. *Educational Process: International Journal*, *6*(4), 55–73. https://doi.org/10.22521/edupij.2017.64.4

Probst, K. M. (2017). Measuring the Longitudinal Communication Growth of Learners Who Are Deafblind [Illinois State University]. In *ProQuest Dissertations and Theses*. http://ezproxy.library.usyd.edu.au/login?url=https://www.proquest.com/docview/20183926 00?accountid=14757

Reed, C. M., Tan, H. Z., Perez, Z. D., Courtenay Wilson, E., Severgnini, F. M., Jung, J., Martinez, J. S., Jiao, Y., Israr, A., Lau, F., Klumb, K., Turcott, R., & Abnousi, F. (2019). A Phonemic-Based Tactile Display for Speech Communication. *IEEE Transactions on Haptics*, *12*(1), 2–17. https://doi.org/10.1109/TOH.2018.2861010

Rodríguez-González, A. M., & Rodríguez-Míguez, E. (2020). Need and use of assistive devices and architectural facilitators in a dependent population. *Atencion Primaria*, *52*(10), 770–777. https://doi.org/10.1016/j.aprim.2019.08.003

Rutherford, G. (2021). Teacher education: doing justice to UNCRPD Article 24? *International Journal of Inclusive Education*. https://doi.org/10.1080/13603116.2021.1882054

Sajjad Hussain, Dr. Uzma Shahzadi, & Itbar Khan. (2020). Challenges to Learners with Disabilities in the Higher Education Institutions in Pakistan: A Review. *Research Journal of Social Sciences and Economics Review (RJSSER)*, *1*(3), 12–19.

https://doi.org/10.36902/rjsser-vol1-iss3-2020(12-19)

Savitri, A. H., Siswati, Purwanti, D. A., Kustanti, E. R., رمضان:ا, Priasmoro, D. P., Ernawati, N., Basic, T., Support, L., Di, B. L. S., Ponorogo, K., Syndrome, D., Sidoarjo, D. I., John, A., Roblyer, M. Z., Aydogan, D., Kizildag, S., Сиванов, Pendidikan, B., … Bulut, S. (2015). Compare Resilience of Families with Mentally Retarded Children and Family with Normal Children. *Social Psychology of Education*, *5*(1), 20–26. http://www.academia.edu/4424837/Psychological_well_being_Reflections_on_an_elusive_ construct_and_its_assessment%250Ahttp://archsurg.jamanetwork.com/article.aspx?doi=10. 1001/jamasurg.2013.1368%250Ahttp://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=refere nce&D=psyc13

See, A. R., & Advincula, W. D. (2021). Creating tactile educational materials for the visually impaired and blind students using ai cloud computing. In *Applied Sciences (Switzerland)* (Vol. 11, Issue 16). MDPI AG. https://doi.org/10.3390/app11167552

Shah, M., Nair, C. S., & Richardson, J. T. E. (2017). Chapter 8 - Accessing Student Voice: Using Qualitative Student Feedback. In *Measuring and Enhancing the Student Experience*.

Sjølie, E., Strømme, A., & Boks-Vlemmix, J. (2021). Team-skills training and real-time facilitation as a means for developing student teachers' learning of collaboration. *Teaching and Teacher Education*, *107*. https://doi.org/10.1016/j.tate.2021.103477

Sobngwi-Tambekou, J. L., Tsague-Agnoux, M., Fezeu, L. K., & Ndonko, F. (2022). Teenage childbearing and school dropout in a sample of 18,791 single mothers in Cameroon. *Reproductive Health*, *19*(1). https://doi.org/10.1186/s12978-021-01323-4

Štěrbová, D., & Kudláček, M. (2014). Deaf-blindness: Voices of mothers concerning leisure-time physical activity and coping with disability. *Acta Gymnica*, *44*(4), 193–201. https://doi.org/10.5507/ag.2014.020

Sumardi, L. (2020). Why Students Dropout? Case Study of Dropout Attributions in West Nusa, Tenggara Province , Indonesia. *Cross-Currents: An International Peer-Reviewed Journal on Humanities & Social Sciences*, *6*(6), 85–91.

Sun, Y. (2022). Innovative Design of Immersion Teaching Aids for Children's Art Based on Augmented Reality Technology. *Lecture Notes on Data Engineering and Communications Technologies*, *98*, 166–173. https://doi.org/10.1007/978-3-030-89511-2_20

Svetsky, S., Moravcik, O., Shyshkina, M., Cervenanska, Z., & Kotianova, J. (2022). *The Knowledge-Based Design of Educational Technology* (pp. 759–775). https://doi.org/10.1007/978-3-030-89912-7_58

Tamin, T. Z., Idris, F. H., Mansyur, M., & Syarif, D. R. (2014). Prevalence and determinants of obesity in students with intellectual disability in Jakarta. *Medical Journal of Indonesia*, *23*(2), 106–111. https://doi.org/10.13181/mji.v23i2.688

Tanamir, M. D., & Dkk. (2020). Analisis Karakteristik Gaya Belajar Remaja Di Korong Sijangek Kenagarian Sungai Durian Kecamatan Patamuan Kabupaten Padang Pariaman. *Curricula: Journal of Teaching and Learning*, *5*(1), 50–59.

Tang, K. N. (2020). The importance of soft skills acquisition by teachers in higher education institutions. *Kasetsart Journal of Social Sciences*, *41*(1), 22–27. https://doi.org/10.1016/j.kjss.2018.01.002

Tanner, L., McGlade, A., & Irwin, M. (2019). Engagement and inclusion of individuals with a dual sensory loss and learning disability in the assessment process-staff perspectives. *Practice*. https://doi.org/10.1080/09503153.2019.1695110

Tayyara, A. el R. (2020). The practicability of proverbs in teaching Arabic language and culture. *Language Teaching Research*. https://doi.org/10.1177/1362168819895253

Teke, A. M., Khalid, M., & Katami, N. A. (2022). Problems and Prospects of Almajiri Integration Programme in North West Geo-Political Zone, Nigeria. *International Journal of Education and Literacy Studies*, *10*(1), 14. https://doi.org/10.7575/aiac.ijels.v.10n.1p.14

Turcotte-Tremblay, A.-M., Gali Gali, I. A., & Ridde, V. (2020). An Exploration of the Unintended Consequences of Performance-Based Financing in 6 Primary Healthcare Facilities in Burkina Faso. *International Journal of Health Policy and Management*. https://doi.org/10.34172/ijhpm.2020.83

UNESCO. (2015). *Sustainable Development Goals - Resources for educators*. SDG Resources for Educators - Quality Education.

URT. (2013). The United republic of Tanzania. National Beaural of Statistics: 2012 Population and Housing Census Population Distribution by Administrative areas. *National Bureau of Statistics Ministry of Finance*, 177,180.

Wahlqvist, M., Björk, M., Anderzén-Carlsson, A., & Huus, K. (2020). Health-Related Quality of Life, Family Climate and Sense of Coherence of Families in Which a Parent Has Deafblindness. *Frontiers in Education*, *5*. https://doi.org/10.3389/feduc.2020.00143

Wambua, M. E., & Samuel, W. (2019). Constraints Facing Successful Implementation of the Competency-Based Curriculum in Kenya. *American Journal of Educational Research*, *7*(12), 943–947. http://pubs.sciepub.com/education/7/12/8

WARD, N. B. (2018). TEACHERS' PERCEPTIONS ON TEACHING THE WHOLE CHILD. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, *79*(10-A(E)), No-Specified. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc15&NEWS=N&AN =2018-34217-126

Weiss, M. P. (2018). Viewpoint on interventions for students with learning disabilities: Instruction matters. In *Advances in Special Education* (Vol. 33, pp. 13–29). Emerald Group Publishing Ltd. https://doi.org/10.1108/S0270-401320180000033002

WHO. (2014). WHO global disability action plan 2014-2021. *World Health Organisation Geneva, Swizerland*, 1–5.

Wu, X. V., Chi, Y., Selvam, U. P., Devi, M. K., Wang, W., Chan, Y. S., Wee, F. C., Zhao, S., Sehgal, V., & Ang, N. K. E. (2020). A Clinical Teaching Blended Learning Program to Enhance Registered Nurse Preceptors' Teaching Competencies: Pretest and Posttest Study. *Journal of Medical Internet Research*, *22*(4). https://doi.org/10.2196/18604

Yin, R. K. (2014). Case study research: Design and methods (5th ed.). In *Thousand Oaks, CA: SAGE Publications*.

Yin, Robert K. (2013a). Applications of case study research. *Applied Social Research Methods Series*, *34*, 173. https://doi.org/10.1097/FCH.0b013e31822dda9e

Yin, Robert K. (2013b). Case study research: design and method, 3rd Ed. In *SAGE Publications*.

Yu, H. P. (2020). The implementation and effectiveness of using ubiquitous learning model to pre-service teacher training in special education. *ACM International Conference Proceeding Series*, 265–268. https://doi.org/10.1145/3416797.3416824

Yuan, J., Tian, J., Chen, C., & Chen, G. (2020). Experimental investigation of color reproduction quality of color 3D printing based on colored layer features. *Molecules*, *25*(12). https://doi.org/10.3390/molecules25122909

Yulianti, D., Wiyanto, Rusilowati, A., & Nugroho, S. E. (2020). Development of physics learning teaching materials based on science technology engineering and mathematics to develop 21st century learning skills. In *Periodico Tche Quimica* (Vol. 17, Issue 34, pp. 711–717). Tche Quimica Group.

Yuwono, I., & Okech, J. B. (2021). The Classroom Impact of Trained Special Needs Education Teachers in Selected Schools: An Evaluation Study. *Frontiers in Education*, *6*. https://doi.org/10.3389/feduc.2021.630806

Zabeli, N., Kaçaniku, F., & Koliqi, D. (2021). Towards the inclusion of students with special needs in higher education: Challenges and prospects in Kosovo. *Cogent Education*, *8*(1). https://doi.org/10.1080/2331186X.2020.1859438

Zenda, R. (2017). ESSENTIAL TEACHING METHODS TO ENHANCE LEARNER ACADEMIC ACHIEVEMENT IN PHYSICAL SCIENCES IN RURAL SECONDARY SCHOOLS. A SOUTH AFRICAN CASE STUDY. *Information and Learning Science*, *118*(3–4), 1–28. https://doi.org/10.1108/ILS-03-2017-0014

Zenda, R., & Ferreira, J. G. (2016). Improving academic achievement of science learners in rural schools through assessment practices: A South African case study. *Journal of Baltic Science Education*, *15*(4).

Zhang, L., & Guo, J. (2021). Methods of Making Courseware for College English Teaching in the Information Age. *Advances in Intelligent Systems and Computing*, *1233 AISC*. https://doi.org/10.1007/978-3-030-51431-0_14

Zhao, Y., Wu, S., Reynolds, L., & Azenkot, S. (2018). A Face recognition application for people with visual impairments: Understanding use beyond the lab. *Conference on Human Factors in Computing Systems - Proceedings*, *2018-April*. https://doi.org/10.1145/3173574.3173789

Zheng, H., & Chang, J. (2022). CAD method and model in teaching of creative design for jewelry. *Computer-Aided Design and Applications*, *19*(S1), 47–58. https://doi.org/10.14733/CADAPS.2022.S1.47-58

**APPENDIX I: INTRODUCTORY LETTER**

**KYAMBOGO UNIVERSITY**
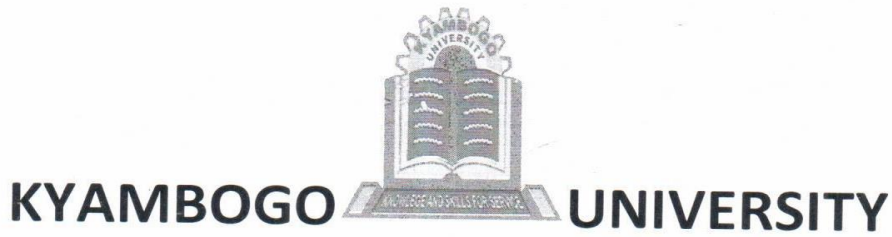
P. O. BOX 1, KAMPALA
**FACULTY OF SPECIAL NEEDS & REHABILITATION**
Tel: 0414-286237/285001/2  Fax: 0414-220464
*DEPARTMENT OF SPECIAL NEEDS STUDIES*

30th March, 2022

The DEO/DIS/Head teacher/Teacher/Community/Opinion Leader/Church Leader

............................................................

............................................................

Dear Sir/Madam,

**RE:   INTRODUCTION OF RESEARCH STUDENT ON DATA COLLECTION**

This is to introduce the bearer Rev/Dr/Sr/Mr/Mrs./Ms. NTONOLWA MICHAEL KUZENZA
**Reg.No:** 19/x/GMSN/18735/PD......... who is a bonafide student of Kyambogo
University in the Faculty of Special Needs and Rehabilitation, Department of Special
Needs Studies.  As partial fulfillment of the requirement for the award of the
Diploma/Degree/Masters, he/she is required to undertake a research on the approved
area of study.

The purpose of this letter is to request you to allow him/her have access to information
from your office, school or area of operation necessary for the study.

Kyambogo University will be grateful for any assistance rendered to the student.

Yours faithfully,

Pp

Dr. Okwaput Stackus
**HEAD OF DEPARTMENT**

*(Stamp: Kyambogo University, 30 MAR 2022, P.O.Box 1, Kyambogo, Department Of Special Needs Studies)*
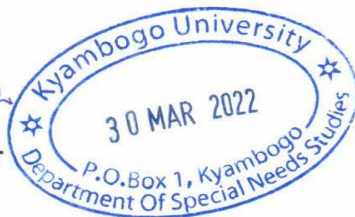
## APPENDIX II: APPLICATION LETTER TO THE CITY DIRECTOR

Kuzenza Michael Ntonolwa
P.O. Box 77430
Dar es Salaam

**12 April 2022**

MKURUGENZI
HALMASHAURI YA JIJI
**DAR ES SALAAM**
K.K

AFISA ELIMU WA JIJI
**DAR ES SALAAM**
K.K

AFISA ELIMU KATA
KATA YA GEREZANI
**DAR ES SALAAM**

Mheshimiwa,

### YAH: OMBI LA KIBALI CHA KUFANYA UTAFITI WA ELIMU

Tafadhali husika na somo tajwa hapo juu.

Mimi ni mwalimu ninayefanya kazi katika halmashauri ya wilaya kisarawe tangu mwaka 2019, nimekuwa katika masomo ya **Shahada ya Uzamili ya Elimu Maalum katika Chuo Kikuu cha Kyambogo nchini Uganda**. Hivyo ili kukidhi mahitaji ya kuhitimu shahada hiyo ninapaswa kufanya utafiti na kuwasilisha matokeo chuoni ikiwa ni sehemu ya mafunzo.

Utafiti nitakao ufanya ni juu ya **matumizi ya raslimali za elimu katika kufundisha wanafunzi viziwi wasioona.** Dhumuni la utafiti huu ni kupanua wigo wa kujumuisha wanafunzi viziwi wasioona katika kunufaika na elimu. Sehemu ambayo ninapenda kufanyia utafiti huu ni shule ya Msingi Uhuru Mchanganyiko iliyopo katikati ya Jijini Dar es Salaam. Hivyo ninaomba kibali cha kufanya utafiti katika shule hiyo.

Naahidi katika utafiti huu sitakiuka maadili yoyote ya utafiti na wala kuathiri usalama wa taifa letu.

Pamoja na barua hii naambatanisha na barua kutoka chuoni kwa uthibitisho zaidi

Natanguliza shukrani zangu za dhati kwako kwa kulifikiria ombi langu.

Wako katika utafiti wa Elimu

## APPENDIX III: ACCEPTANCE LETTER I

JAMHURI YA MUUNGANO TANZANIA

OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA JIJI LA DAR ES SALAAM

Kumb. Na. DCC/CR.7/VOL.V/70                                    11/04/2022

Mwalimu Mkuu,
Shule ya Msingi Uhuru mchanganyiko,
**Halmashauri ya Jiji la Dar es salaam.**

### Yah: KIBALI CHA KUFANYA UTAFITI.

Husika na kichwa cha habari hapo juu.

2.      Idara ya Elimu Msingi inapenda kumtambulisha **Mwanachuo Ntonolwa Michael Kuzenza**   toka chuo cha **Kyambogo University**   kufanya utafiti katika shule   yako. "Mada ya utafiti ni " **Matumizi ya vifaa vya kufundishia kwa wanafunzi wenye ulemavu wa ukiziwi kutoona".** kuanzia tarehe 11/04/2022 hadi 15/04/2022.

3.      Taratibu na sheria za shule zifuatwe na kuzingatia ratiba ya masomo darasani.

S. Msechu
Kny: AFISA ELIMU MSINGI
HALMASHAURI YA JIJI LA DAR ES SALAAM

Nakala:      Mkurugenzi
             **Halmashauri ya Jiji**      -             (Aione kwenye Jalada).

**APPENDIX IV: ACCEPTANCE LETTER II**

# HALMASHAURI YA JIJI LA DAR ES SALAAM

## SHULE YA MSINGI UHURU MCHANGANYIKO.
## S.L.P 2051 DAR ES SALAAM

KYAMBOGO UNIVERSITY,
P.O.BOX 1 KAMPALA,
FUCULTY OF SPECIAL NEEDS AND REHABILITATION
DEPARTMENT OF SPECIAL NEEDS STUDIES.

**YAH: <u>KUFANYA UTAFITI HAPA SHULENI</u>**

Husika na kichwa cha habari hapo juu.

Uongozi wa shule ya msingi Uhuru Mchanganyiko inapenda kukujulisha kuwa
Mwanachuo Ntonolwa Michael Kuzenza amekubaliwa kufanya utafiti hapa shuleni katika
kitengo cha ukiziwi kutoona. Kuanzia tarehe 11/04/2022 hadi 15/04/2022.

Katika ujenzi wa Taifa

MWALIMU MKUU
SHULE YA MSINGI UHURU MCHANGANYIKO
S. L. P. 2051 DAR ES SALAAM.

**SEZARIA KIWANGO**
**M/ MKUU**

## APPENDIX V: CONSENT LETTER

<div align="right">

Kuzenza Michael Ntonolwa

P.O. Box 77430

Dar es Salaam


**12 April 2022**

</div>

Ndugu/Mwalimu/Afisa...........................................

**YAH: OMBI LA KUKUOMBA KUSHIRIKI WAKO KATIKA UTAFITI WA ELIMU**

Tafadhali husika na kichwa cha habari hapo juu.

Mimi ni mwanafunzi wa Chuo Kikuu cha Kyambogo kilichopo nchini Uganda ambapo ninasoma shahada ya uzamili katika fani ya Elimu Maalumu.

Katika hatua za masomo yangu ninapaswa kufanya utafiti ili kukamilisha mafunzo haya.

Utafiti ninaotaka kufanya utahusu **matumizi ya raslimali za elimu katika kufundisha wanafunzi viziwi wasioona.** Hivyo ninaomba ushirikiano wako katika utafiti huu.

Natanguliza shukrani zangu za dhati kwako.

Wako

88

**APPENDIX VI: INTERVIEW GUIDE FOR TEACHERS OF LDB**


**A. EXAMINE THE IMPORTANCE OF EDUCATIONAL RESOURCES FOR LEARNERS WITH DEAFBLINDNESS**.


1. Eleza umuhimu wa vifaa vya kufundishia watoto wenye ulemavu wa kutoona na kusikia?

   *(Explain how educational resources are important in teaching learners with deafblindness?).*


**B. ANALYZE HOW EDUCATIONAL RESOURCES FOR LEARNERS WITH DEAF BLIND ARE BEING USED.**

2. Eleza vifaa vya kufundishia vinatumikaje?

   *(Explain how educational resources for LDB are being used)*


3. Eleza vifaa vya kufundishia mnapata toka wapi?

   *(Explain where the sources of educational resources are?).*

4. Je umepata mafunzo yeyote ya namna ya kutumia vifaa vya kufundishia?

   *(Explain have you attended any training of the use of educational resources?)*


5. Vifaa vinavyotumika ni vya kisasa au vya zamani?

   *(Explain are educational resources utilized are modern or old ones?)*

6. Eleza una uzoefu wa muda gani katika kufundisha wanafunzi viziwi wasioona?

   *(explain how long have you been in teaching LDB?)*

89

# C. EXAMINE CHALLENGES FACE TEACHERS IN USING EDUCATIONAL RESOURCES FOR LEARNERS WITH DEAF BLIND.

7. Changamoto zipi unazipata katika kutumia vifaa vya kufundishia?

   *(Explain what challenges face you in using educational resources?)*

8. Wanafunzi wanapata changamoto gani katika kutumia vifaa vya kufundishia?

   *(Explain what challenges face LDB in using educational resources?)*

9. Eleza madhara ya kufundisha bila kutumia vifaa vya kufundishia

   *(Explain the  shortcomings of teaching LDB without employing educational resources)*

10. Elezea mazingira ya kufundisha yakoje?

    *(How are the teaching environments?)*

Mwisho

*The end*

Asante kwa kushiriki  katika mahojiano haya

*(Thank you for participating in this interview)*

**APPENDIX VII: INTERVIEW GUIDE FOR TEACHERS OF LDB**

**A. EXAMINE THE IMPORTANCE OF EDUCATIONAL RESOURCES FOR LDB**.

11. Eleza umuhimu wa vifaa vya kufundishia watoto wenye ulemavu wa kutoona na kusikia?

*(Explain how educational resources are important in teaching learners with deafblindness?).*

**B. ANALYZE HOW EDUCATIONAL RESOURCES FOR LDB**
 **ARE BEING USED.**

12. Eleza vifaa vya kufundishia vinatumikaje?

*(Explain how educational resources for LDB are being used)*

13. Eleza vifaa vya kufundishia mnapata toka wapi?

*(Explain where the sources of educational resources are?).*

14. Je umepata mafunzo yeyote ya namna ya kutumia vifaa vya kufundishia?

*(Explain have you attended any training of the use of educational resources?)*

15. Vifaa vinavyotumika ni vya kisasa au vya zamani?

*(Explain are educational resources utilized are modern or old ones?)*

16. Eleza una uzoefu wa muda gani katika kufundisha wanafunzi viziwi wasioona?

*(explain how long have you been in teaching LDB?)*

## C. EXAMINE CHALLENGES FACED BY TEACHERS IN USING EDUCATIONAL RESOURCES FOR LDB

17. Changamoto zipi unazipata katika kutumia vifaa vya kufundishia?

    *(Explain what challenges face you in using educational resources?)*

18. Wanafunzi wanapata changamoto gani katika kutumia vifaa vya kufundishia?

    *(Explain what challenges face LDB in using educational resources?)*

19. Eleza madhara ya kufundisha bila kutumia vifaa vya kufundishia

    *(Explain the  shortcomings of teaching LDB without employing educational resources)*

20. Elezea mazingira ya kufundisha yakoje?
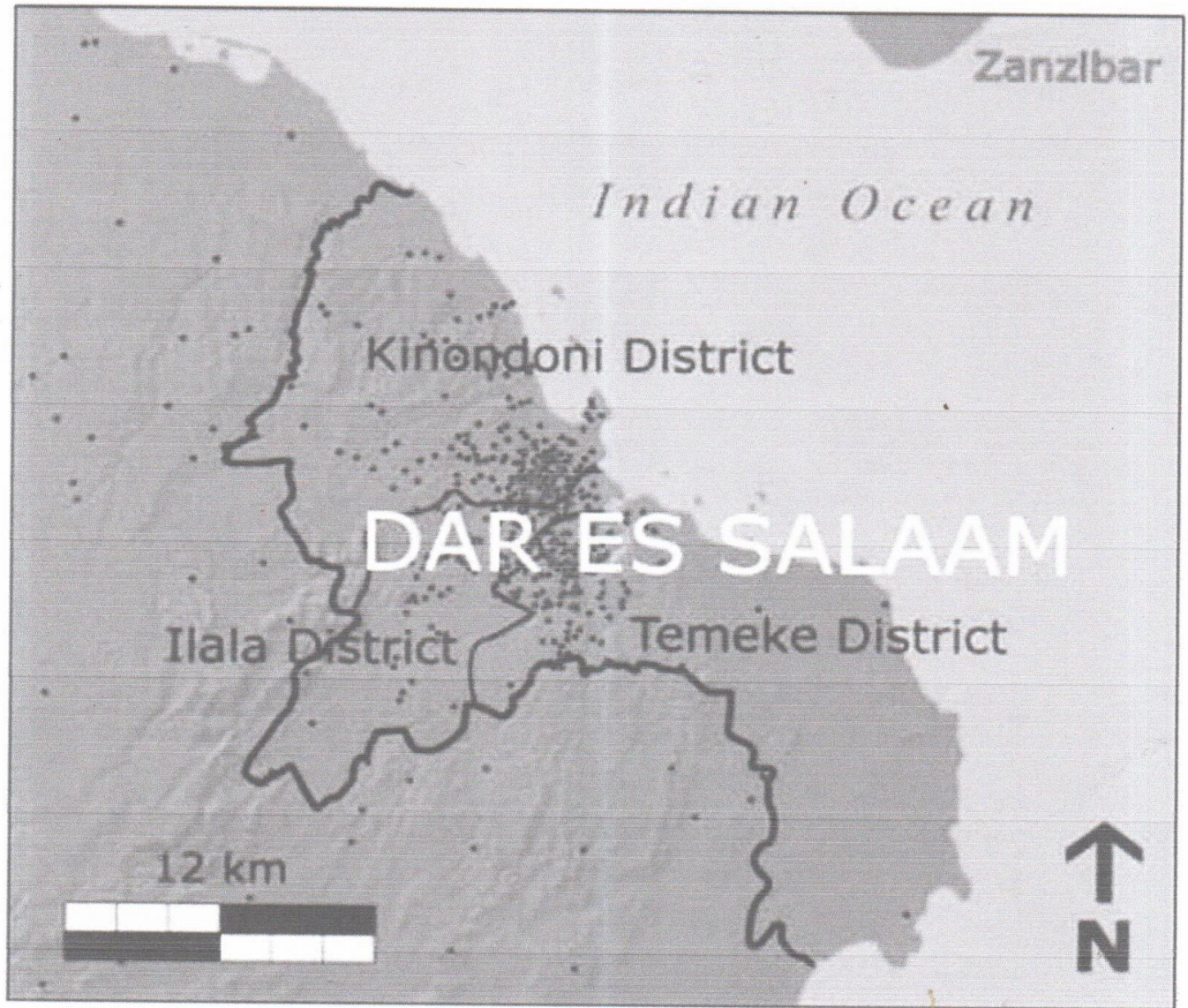
    *(How are the teaching environments?)*

Mwisho

*The end*

Asante kwa kushiriki  katika mahojiano haya

*(Thank you for participating in this interview)*

**APPENDIX VIII: MAP OF DAR ES SALAAM**



*Source: Dar es Salaam City Council*