



**COMMUNICATION WITH DEAF-  
BLIND PEOPLE IN ZAMBIA:  
A SWOT ANALYSIS**

BY  
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**LUSAKA, ZAMBIA**

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## **DEDICATION**

To my children, Takondwa Jayden, Taizya and Marcus, my greatest source of inspiration, love, and motivation.

## **ACKNOWLEDGEMENTS**

I wish to give gratitude to Deaf Blind International for sponsoring this research. I further express my sincere gratitude to Mr Mirko Baur and Mr Victor Locoro for their guidance in the course of this research.

Above all, I thank the Almighty God for rendering an opportunity and good health to carry out this study.

## ABSTRACT

This research dissertation investigated the communication strategies employed for Deafblind individuals through a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. The study utilizes qualitative research methods, including interviews, observations, and literature reviews, to gather insights from participants with Deafblindness, teachers and parents.

A sample of 9 participants, which included three (3) children with Deafblindness and three (3) parents and three (3) teachers, was drawn from the three provinces in Zambia namely Lusaka, Eastern and Southern provinces. The data was collected using interviews and observation checklist. Data was then analyzed thematically.

Following a comprehensive analysis of communication strategies for Deafblind individuals, addressing their strengths, weaknesses, opportunities, and threats the findings of the study established that strengths of communication strategies for Deafblind individuals include tactile signing, braille, tactile graphics, and available assistive technologies. These were seen to provide avenues for communication, promote independence, and facilitate social interaction. The study also identified weaknesses which included limitations and barriers in communication methods, such as a lack of tactile sign language interpretation services. These weaknesses emphasize the need for ongoing efforts to improve the accessibility, effectiveness, and inclusivity of communication strategies. In this study it was established that opportunities for enhancing communication strategies lie in the use of multisensory stimuli. Parents and teachers employed an inclusive design approach to meeting the communication needs of Deafblind children. This inclusive approach involved the use of both tactile signing and real objects. Threats to effective communication strategies include social and environmental challenges, systemic barriers, technological limitations, lack of support staff and disparities in communication access. The findings contribute to the understanding of effective communication approaches in order to influence the development of inclusive and accessible communication support systems for Deafblind individuals.

***Key words: Deafblind, communication strategies, SWOT analysis***

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# CHAPTER ONE

## INTRODUCTION

### 1.0 Overview

This chapter discusses the background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitations of the study, and definition of terms.

### 1.1 Background

The ability to communicate is undoubtedly one of the most important aspects of human life. Communication skills are crucial in achieving the optimal quality of life for any individual. Communication is the process of exchanging information. It is the way we share our knowledge, needs, wishes, and feelings with others. Effective communication can be achieved if an individual acquires language (American Psychiatric Association, 2013). Language acquisition is a very important, yet, complex developmental milestone. It follows different stages and encompasses different processes. As children grow, they learn to communicate within their family settings, with their peers as well as different social settings. However, the language development of children who are deafblind is delayed due to reduced access to opportunities to experience exposure to language (Dammeyer, 2014).

The population of children with deafblindness has widened considerably in recent years. Deafblindness is a sensory disability, resulting from the combination of both hearing and vision loss or impairment that significantly affects communication (Alsop, L. (Ed.), 2002). As a disability, deafblindness has attracted the attention of education providers and researchers especially where communication is concerned. The communication process for Deafblind individuals can be examined by looking at the four categories of Deafblindness: those who are totally deaf and blind; those who are totally deaf and visually impaired; those who are hard of hearing and blind; those who have some use of residual hearing and vision (Knoors & Vervloed, 2003; Vervloed et al., 2006). To further understand the methods of communication used by individuals with deafblindness, we must consider the age of onset; any correction (i.e., surgery,

lenses, hearing aids, etc.); the extent of additional physical and cognitive disabilities; and additional health impairments. These are all factors that will determine the choice of communication used by an individual with Deafblindness.

Deafblind people communicate in many different ways as determined by the nature of their disability, the age of onset, and what resources are available to them. Methods of communication include the use of residual hearing (speaking clearly, hearing aids, or cochlear implants) or sight (signing within a restricted visual field, writing with large print); tactile signing, sign language, or a manual alphabet with tactile or visual modifications; interpreting services (such as sign-language interpreters or communication aides); communication devices such as Tellatouch or its computerized versions known as the TeleBraille and Screen Braille Communicator; Tadoma, a tactile modality (Hersh, 2013).

Because sight and hearing are the primary avenues of communication, it is important to carry out a strengths, weaknesses, opportunities, and threats (SWOT) analysis to establish the effectiveness of these communication strategies employed when interacting with individuals with deafblindness in both education and social setting.

## **1.2 Statement of the problem**

There is a growth in research on the communication needs of persons with deafblindness. Despite studies suggesting different communication modes for individuals with deafblindness, the community of individuals with deafblindness remains to be a relatively small population, with complex and diverse communication needs. Several strategies to assist persons living with deafblindness to access the environment and communicate their needs have been developed however what is not known is the efficiency of these strategies used hence the need to conduct a SWOT analysis necessitated in this study.

## **1.3 Purpose of the study**

The purpose of the study is to carry out a strengths, weaknesses, opportunities, and threats (SWOT) analysis to establish the effectiveness of these communication strategies employed when interacting with individuals with deafblindness in both education and social setting in order

to influence the development of inclusive and accessible communication support systems for Deafblind individuals.

#### **1.4 Specific Objectives**

The study will be guided by the following objectives

1. To determine the communication strategies used to interact with Deafblind individuals in education and social settings.
2. To establish the adaptations and modifications used to employ these communication strategies.
3. To conduct a SWOT analysis of the communication strategies employed.

#### **1.5 Research Questions**

The study will be guided by the following questions;

1. What strategies are used when communicating with deafblind individuals by teachers and caregivers?
2. What adaptations and modifications are being used to employ these communication strategies?
3. What are the strengths, weaknesses opportunities, and threats of the communication strategies employed?

#### **1.6 Significance of the Study**

The study hoped to improve the body of knowledge on communication strategies for deafblind individuals among teachers, families, caregivers, and other professionals. It is hoped that this increased knowledge will help individuals who are deafblind to have the opportunity for experiencing their environment and achieve their maximum potential.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter reviews literature on the communication for deaf-blind individuals by first outlining the communication implications for deaf-blind individuals, the communication in both social and educational domains, and the types of communication strategies used.

#### **2.1 Communication Implications for deaf-blind Individuals**

The term ‘deafblindness’ refers to combined hearing and vision loss. Although most individuals with deafblindness have some functional use of vision and hearing, the combination of losses greatly impairs the ability to gather auditory and visual information. This creates intensive communication and learning needs that cannot be met by programs designed solely for persons who are blind or have low vision, or persons who are hard of hearing or deaf (Alsop, L. (Ed.), (2002). Not understanding the other person and not being understood leads to communication breakdowns. To communicate with individuals who are deafblind you need to take into consideration the proximity, social setting, and availability of sensory stimuli.

##### **2.1.1 Proximity**

Individuals who are deafblind cannot listen to or read the sign language of someone who is speaking or signing at a distance. They cannot passively observe what other people are doing, overhear conversations, or observe with clarity the environment around them.

When a child has both a visual impairment and hearing loss, it may be more difficult to understand what she/he is trying to tell you and you may be unsure how you can best communicate and interact with him/her. Communication for young or developmentally young children with deafblindness begins when they show preferences for a particular familiar person through emotional attachments. They tend to seek proximity to those people, especially in times of distress, and they can use familiar adults as a secure base to express their needs (Bonner, 2010).

Deafblindness severely limits the opportunity for a person to have contact with people and things in the environment, all people who are deafblind, regardless of their cognitive or physical capabilities, are reliant to some extent upon others to help them access, interpret, and organize information from the surrounding world. As a result, they are essentially isolated. This sense of isolation caused by deafblindness creates barriers to communication in the life of a person with this disability. Therefore, there is a need for either touch or very close proximity to make contact meaningful for someone with both vision and hearing impairments (Caselli & Volterra, 1994).

### **2.1.2 Social/Educational Interaction**

The social experiences of individuals who are deafblind are different from those of hearing and sighted people. Deafblind people cannot communicate with more than one person at a time. Due to this, persons with deafblindness cannot benefit from interactions within a social setting that uses both verbal and non-verbal communication strategies. Previous researchers such as Miller & Hodges (2005) report that to maximize social interactions for deafblind individuals there is a need to employ interventions involving the school, home, and community.

Despite these challenges, people who are deafblind have unique opportunities for intimacy and depth of experience that sighted-hearing people may lack. This is because the loss of senses of hearing and sight heightens the function of the remaining senses and therefore it is imperative for guardians and educators to take into account these significant strengths and consider how they may influence effective communication.

It is however not known how these communication implications are being effectively employed in Zambia to ensure effective communication with deafblind individuals hence the need for the present study.

### **2.2 Types of communication strategies**

According to Smith & Cote (1982), 75% of most people's receptive communication comes through vision. This statistic highlights the great importance of a child's visual connection with the environment to communicate effectively. The effect of blindness on communication development cannot be overemphasized. The inability to see restricts one from benefitting from visual cues that promote communication development. A deaf child with normal vision will not

have the same trouble developing language as a child who is blind. However, because communication development is dependent on one's capacity to access language from the environment, deafness significantly affects communication for children who are deaf. A child who is deaf or severely hearing impaired and who grows up in a hearing world is at a distinct communication disadvantage. In this regard, deafblindness is a sum of difficulties from blindness and deafness and therefore presents a unique disability challenging educators and caregivers to create unique communication strategies. To communicate with individuals who are deafblind, different communication strategies are employed. These include tactile sign language, natural signs, assistive technology, and the use of interpreters.

### **2.2.1 Coactive and Tactile Sign Language**

Although the world is perceived as mainly structured into visual and auditory stimuli, the sense of touch plays a fundamental role in human perception, as it enables individuals to communicate with others and acquire a variety of pieces of information about both the environment and the external world (Deasy & Lyddy, 2009).

Coactive signing and tactile signing are two different types of adapted sign language used to communicate with children who are deafblind through the sense of touch. Coactive signing involves taking the child's hands and then molding the child's hands through the signs so that you are helping the child make the signs. The purpose of coactive signing is to teach the child new vocabulary by teaching them how to form recognizable signs as accurately as possible through experience. Coactive signing is also used to help the child express his or her wants and needs through signed communication.

On the other hand, tactile sign language is a communication method based on a standard manual sign system in which the receiver's hand(s) is placed lightly upon the hand(s) of the signer to perceive the signs. Tactile sign language makes it possible for deafblind individuals to access language (Project SALUTE, 2002). Tactile signing is used when the person places his or her hands under the child's hands to express something to the child. It is used when the child has no functional vision or significant visual impairment. The other person needs to sign underneath the child's hands so the child can feel the signs and interpret them.

### **2.2.2 Use of Interpreters**

People who are deafblind routinely need someone to connect them to people, events, and places. This is achieved through the use of a sign language interpreter. This interpreter may use different modes of interpretation. It may include not only traditional interpreting of conversations but also descriptions of physical surroundings and context, as well as simplified descriptions of interactions. Additionally, the interpretation may be done in tactile modality (Crossroads, 2018).

There is significant growth in the tactile sign language interpreting profession around the world. Tactile sign language interpretation modes used are diverse from region to region yet serve the purpose of enhancing communication between deafblind individuals and those within their environment. It has been however observed that interpretation services as such are mostly beneficial to deaf individuals who lost their sense of sight after sign language acquisition. However, the extent to which tactile interpretation in a deafblind community in Zambia has been successfully exploited is not known hence the need for the present research.

### **2.2.3 Assistive Technology**

Assistive technology and devices can support deafblind learners in communication. The use of assistive technologies to promote communication and interaction with people with deafblindness is yet to be widely researched. However, some assistive technologies that have been developed to enhance social inclusion and communication of deafblind individuals include telecommunication devices for the deaf (TDD) and electronic braille writer which produces Braille and translates Braille into text or synthetic speech (Cantin et al., 2019). It should be noted however that the use of these assistive technology is dependent on the levels of either vision or hearing loss as well as the onset of either impairment.

The population of infants, children, and adults who are deafblind is now very diverse, and this diversity makes it important to learn how to effectively communicate with them to maximize their access to the environment around them. This can be achieved through a close analysis of different communication strategies used and their ability to achieve the intended communication goals.



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter discusses the methodology which will be used in the study. It starts with a description of the research design that will be employed, the target population, the sample size, the sampling procedures, and the research instruments to be used. Furthermore, it describes the data collection procedures and how data will be analyzed to answer the research questions.

#### **3.1 Research Design**

This study will take a Qualitative approach and use a Descriptive Research Design. The major purpose of descriptive research is a description of the state of affairs as it exists and can be information about people's attitudes, opinions, habits, education, or social issues (Kombo & Tromp, 2006). Kasonde (2013) describes a research design as merely a set of logical steps taken by a researcher to answer the research questions and is chosen by the researcher according to his or her assumptions or preference and experience in research. A descriptive research design is preferred in this study because it will help to investigate the communication modalities used on and with deaf-blind individuals and successfully analyze these modalities through a SWOT analysis.

#### **3.2 Population of the Study**

Oson and Onen (2009) refer to a target population as the total environment of interest to the one carrying out research. In other words, a population is a group of individuals, objects, or items from which samples are taken for measurement. It refers to an entire group of persons or elements that have at least one thing in common (Phiri, 2006). The population of the study will comprise deafblind children, parents, and teachers.

#### **3.3 Sample Size**

A sample size according to White (2003) is a subset or group of subjects from a larger population whose characteristics can be generalized to the entire population. The study sample

includes; three (3) children with deafblindness and three (3) parents and three (3) teachers, making the total number of nine (9) participants. The sample will be drawn from the three provinces in Zambia namely Lusaka, Eastern and Southern provinces.

### 3.3.1 Characteristics of Respondents.

**Table 1: Participants’ gender**

<b>Participants</b>	<b>Female</b>	<b>Male</b>	<b>Total of participants</b>
Children with deafblindness	2	1	3
Teachers	2	1	3
Parents	3	0	3

### 3.4 Sampling Techniques

A sampling technique is a plan that explains how the respondents for the study are to be selected from the population (Kasonde, 2013). A sampling technique merely helps the researcher in selecting those to participate in the study. The study will use Purposive and snowball sampling procedures. The snowball sampling technique allows a researcher to approach participants and then ask them to refer the researcher to other individuals with similar characteristics within the population (Alvi, 2016).

### 3.5 Research Instruments

Interview guides will be used to collect data from parents and teachers. Data communication modalities of children with deafblindness will be generated through video recording. The use of video recording will help to analyze the strengths, weaknesses, opportunities, and threats to communication with children with deafblindness.

An Observation checklist will also be used to gather information for the researcher.

### **3.6 Data Collection Procedure**

Parents/caregivers and teachers of children with deafblindness will consent before the commencement of the study. The consent sought will explain the nature of the study and its purpose. Confidentiality will be observed and assured to participants and they will be required to sign a consent form before answering any questions. Open and closed-ended questions will be used during interviews and the researcher will record some of the communication activities for further analysis. Interview guides will be used to gather information about the communication strategies, successes, and challenges of teachers and parents. Through video recording and observations, the researcher will collect additional information which will help analyze the collected data.

### **3.7 Data Analysis**

Data analysis involves uncovering underlying structures, extracting important variables, detecting any anomalies, and testing any underlying assumptions (Kombo & Tromp, 2006). Data analysis helps a researcher to thoroughly arrange and present the data collected. Data will be analyzed qualitatively using video analysis and thematic data analysis techniques. The use of qualitative analysis helps to illustrate the data in great detail and deals with diverse subjects via interpretations suitable for qualitative descriptive studies (Neuendorf, 2019). The data collected as such will be recorded in themes arising.

### **3.8 Ethical Considerations**

Ethical issues in research are the dos and don'ts of any research undertaking. The measures undertaken to ensure compliance with ethical issues include keeping the identity of the respondents confidential. As rightly identified by Wimmer and Dominick (1994), the principles of confidentiality and respect are the most important ethical requirements demanding compliance on the part of the researcher. The principle of respect demands that the researcher respects the rights, values, and decisions of the respondents. Thus consent will be sought from the participants and, permission from authorities to enable the researcher to undertake the study in their institutions.

## CHAPTER FOUR

### PRESENTATION OF FINDINGS AND ANALYSIS

#### 4.0 Overview

This chapter presents the findings of the study which are presented according to themes generated from the study questions which were as follows:

1. What strategies are used when communicating with deafblind individuals by teachers and caregivers?
2. What adaptations and modifications are being used to employ these communication strategies?
3. What are the strengths, weaknesses opportunities, and threats of the communication strategies employed?

Study participants were given identifiers to help differentiate the respondents as follows: Children with Deafblindness identified as CDb1, CDb2, and CDb3; Teachers as T1, T2, and T3; and Parents as P1, P2, and P3.

#### 4.1 Strategies are used when communicating with deafblind individuals by teachers and caregivers

To begin with, teachers and parents/caregivers were asked what strategies were employed when communicating with learners with deafblindness. The study established that teachers and parents used natural tactile sign language, braille, assistive devices, and tactile graphics as a way of communicating. Below are responses from teachers and parents on their employed strategies:

A female teacher T1 teaching at a primary school in Lusaka province had this to say,

*Firstly when children are brought to the school we request a medical report from the hospital to help us know the level of auditory/vision loss for the child. This helps us know if we can teach the child and communicate using tactile signing. In most instances, however, we employ tactile bodily gestures, which are natural signs, to connect with the children. We also talk to the parents who help us know more about the child's behavior.*

Another teacher from the same special school revealed

*When a deaf child becomes blind, we start to teach them braille. Braille is very crucial to communication as this allows the children to read and understand what is being communicated to them. So in my class, we have been using braille as a mode of communication accompanied by tactile signing. This way we can teach the children within the classroom.*

The researcher observed that teachers did use tactile communication when interacting with the learners and where children did not provide timely feedback the teachers would repeat the signs until the child responded.

Interviews with parents had similar responses. The parents shared their challenge in communicating with the child at the onset. However, the study revealed that behavioral observations helped them in understanding the needs of their child with deafblindness and hence were able to communicate.

P2 mother of CDb1 had this to say:

*When my daughter was born, it was entirely hard. I would use intuition to know if she was hungry or needed to go to the loo. What I did was every time I was presenting a meal to her I would sign to her and then give her the meal. It took some time for the child to start making a similar sign when communicating that she wanted to eat. When I realized that this was working I started doing so with other activities. This has been our communication routine and I can say it has been working well for us.*

When asked how they are able to understand the needs of the child, P3 mother of CDb3 said:

*Most often we think on his behalf. As a parent you know when a child needs water, food or use the toilet. From the time he was a baby he makes a certain sound when he needs to eat. This gesture has helped us know if he needs food or he is hungry. In the social environment, he likes to move around exploring, touching everything. When playing he recognizes people by touching their head/hair and this makes him very happy. He is able to recognize me and his siblings just by touching our heads.*

Other parents interviewed gave similar responses and they as well confirmed that the most widely used communication strategy was bodily tactile signing. Additionally, the parents

revealed that the home environment is kept the same to enable their Deafblind children to master movement and enhance the accessibility of the home. Keeping furniture and household goods in the same positions allows the child to identify different rooms of the house.

#### **4.2 Adaptations and modifications are being used to employ these communication strategies**

To understand better the communication strategies employed, teachers, parents/caregivers were asked if they used any adaptations and modifications to employ these communication strategies. The study established that the use of modern technology and assistive devices is not widely spread in Zambia. This is due to the unavailability of resources and hence results in a lack of opportunity for teachers and parents to benefit from modern techniques for communication. The study revealed the cost of purchasing assistive devices only favors families from high-income areas.

T3 who has acquired deafblindness with residual audio and vision had this to say

*Not many of us can afford assistive devices such as screen readers, amplifiers, and braille transcribers. I was privileged to have been gifted with a sound amplifier in one of my travels and this has been helpful however costs of purchasing batteries for this device are unbearable. That is why you see not many people with deafblindness using assistive devices for communication, it is because they cannot afford it.*

This sentiment echoed with other participants interviewed. In the age of assistive technology, communication with deaf-blind individuals can be made easier. However, due to economic factors, only a few individuals with deafblindness can communicate with others by use of assistive devices. The respondents emphasized the need for tax waivers for the procurement of assistive devices to ensure effective communication.

When talking about modification of communication strategies T2 emphasized the need to appreciate a deafblind individual's specific needs,

*Communication with deafblind individuals varies. When trying to improve the communication outcomes we look at how much the child understands and then tailor make the communication strategy according to their strengths.*

### **4.3 Strengths, weaknesses opportunities, and threats of the communication strategies employed**

From the researchers' perspective, the communication strategies employed significantly displayed some strengths, weaknesses opportunities, and threats.

#### **4.3.1 Strengths**

The strengths identified in the analysis of communication strategies for Deafblind individuals included tactile signing which allowed for effective communication by utilizing touch to convey sign language; Braille which enabled Deafblind individuals to access written information and engage in written communication, promoting independence; Tactile graphics which provided a means for Deafblind individuals to access visual information through touch, facilitating understanding and interpretation. Teachers used real objects in the classroom and allowed the learners to touch them and as a result, gain information and knowledge.

When asked how confident they were about the communication strategies used, respondents echoed similar sentiments.

*P1 said At first I was not sure but after repeated efforts to communicate with my daughter I started to get feedback and she was able to as well communicate her needs to me. Effective communication with a deafblind person is a gradual process that needs repeated stimuli.*

*T3 added on to say Communication for the deafblind is highly dependent on how many times people within their environment attempt to communicate with them and follow the same routine.*

The researcher observed that there were routines in most instances that were followed to communicate with deafblind children in classrooms. For example, the researcher observed that when trying to register their presence with the children, teachers would lightly tap the child's foot and she would respond by placing her hands on the table in readiness for communication.

#### **4.3.2 Weaknesses**

The weaknesses identified in communication strategies for Deafblind individuals included limitations and barriers in communication methods, such as tactile signing and braille, which

may have limitations in terms of physical proximity, interpretation accuracy, availability of materials, and the learning curve associated with mastering them.

The researcher observed some challenges faced by Deafblind individuals in communication. Deafblind individuals had challenges related to limited access to communication resources, difficulties in navigating social environments, and communication barriers in various settings. It was observed that there was not much opportunity given to the deafblind child to communicate and explore the environment. If not communicated to by their caregivers or teachers they stay isolated.

Additionally, no specialists were engaged to bridge the communication gaps. Deafblindness is still a fairly new phenomenon in Zambia and as a result, tactile sign language interpretation has not yet been recognized. School managers revealed that there was no additional support received to enhance communication.

#### **4.3.3 Opportunities**

The opportunities identified in communication strategies for Deafblind individuals include accessibility improvements and inclusive design practices. The use of different communication strategies showed that the parents and teachers were promoting accessibility and an inclusive design in an attempt to enhance communication experiences for Deafblind individuals in various settings. The study revealed that employing different communication strategies such as the use of tactile signing simultaneously with real objects improved the communication outcomes between children who are deafblind and their caregivers. A male teacher, T3, had this to say

*When you use both tactile signing and real objects you help the child create a mental image of the meaning of the sign. The successes of tactile communication are highly dependent on the availability of real or actual objects to back up the signs.*

#### **4.3.4 Threats**

The findings of the study revealed that technological limitations and affordability issues are a threat to the efficacy of communication strategies for deafblind individuals. Despite advancements in assistive technologies, the study revealed limitations in terms of affordability which hindered widespread access to effective communication solutions for Deafblind



individuals. The participants revealed the need for inclusive policies which will support the procurement of tax-free assistive devices to support the communication needs of Deafblind individuals. Additionally, Deafblind individuals from marginalized communities faced additional challenges in accessing communication resources and support.



## CHAPTER FIVE

### DISCUSSION OF FINDINGS

#### 5.0 Overview

The discussion of the findings of this study has been presented according to the objectives of the study.

#### 5.1 Communication strategies used to interact with Deafblind individuals in education and social settings

Communication strategies for Deafblind individuals encompass various methods and approaches that aim to facilitate effective communication and enhance their interaction with the world. In this regard, the study established that the communication strategies used by parents and teachers of children with Deafblindness included bodily tactile signing, braille, modification to the social environment, and in some cases, assistive devices.

The findings from the SWOT analysis of communication strategies for Deafblind individuals have important implications for policymakers, educators, researchers, and stakeholders involved in improving communication accessibility and inclusivity. The strengths identified highlight effective methods and approaches that can be further developed and implemented to enhance communication experiences for Deafblind individuals. Tactile signing, braille, tactile graphics, and assistive technologies play vital roles in bridging the communication gap and promoting independence and social interaction.

It was revealed in this study that parents and teachers tailored communication strategies employed to the needs of the child. This is in line with what is articulated by the Canadian Deafblind Association (2012) in a detailed Competency Framework for intervenors with persons who are deafblind. According to the association, intervention requires a set of skills that are not necessarily easy to learn. The intervention process must be adjusted to the needs and abilities of the individual.

On the other hand, the weaknesses identified point to areas that require attention and improvement. The limitations and barriers in communication methods, challenges faced by

Deafblind individuals, and ethical and privacy concerns should be addressed to ensure effective and equitable communication access for this population. These weaknesses call for the development of comprehensive training programs, increased availability of resources, advancements in technology, and the establishment of ethical guidelines and protocols.

## **5.2 Establish the adaptations and modifications used to employ these communication strategies**

The findings of this study shed light on the adaptations and modifications employed to facilitate effective communication strategies for Deafblind individuals. These adaptations and modifications are crucial for addressing the unique communication needs and challenges faced by this population. The study identified several key adaptations and modifications used in various communication strategies, including:

- Tactile signing: Communication partners adapt their signing techniques by ensuring clear hand movements, proper hand placement, and adjusting their speed and rhythm to accommodate tactile feedback.
- Braille: Braille materials are adapted by producing them in different formats and modifying dot sizes or spacing to suit individual tactile sensitivity and motor abilities.
- Tactile graphics: Tactile graphics are modified through the use of raised lines, textures, and varied patterns to enhance clarity and comprehensibility.
- Assistive technologies: Assistive technologies are customized to meet individual needs, such as adjusting braille display settings, font sizes, speech rate, and haptic feedback intensity. However, these were only available to those who could afford them

The importance of communication adaptations and modifications for individuals with diverse communication needs, including Deafblind individuals, cannot be overstated. These adaptations and modifications play a crucial role in ensuring effective communication and promoting inclusivity. The findings of the study are in agreement with research conducted by Bosch, Wijk, & Gerritsen (2020) which highlights the importance of communication adaptations for individuals with Deafblindness. The study emphasizes the need for customized communication methods, including tactile signing, haptic communication, and assistive technologies, to bridge the communication gap and enable meaningful interactions.

### **5.3 A SWOT analysis of the communication strategies employed**

The SWOT analysis conducted in this study revealed the strengths, weaknesses, opportunities, and threats associated with the communication strategies employed for Deafblind individuals. The findings highlighted the following:

#### **Strengths:**

The interviewed teachers of children with deafblindness in this study demonstrated the use of tactile signing, braille, tactile graphics, and assistive technologies to provide effective communication channels and facilitate independence and social interaction. These highlighted communication strategies play a vital role in facilitating effective communication for individuals with diverse communication needs, including Deafblind individuals. These findings are in line with the study findings of Prasad & Sahu (2019) which emphasize that tactile signing, braille, tactile graphics, and assistive technologies are key enablers for effective communication and access to information for Deafblind individuals.

Deasy & Lyddy (2009) emphasize the importance of the use of touch in perception and communication for individuals with deafblindness. This was echoed in the findings of this study where teachers appreciated the use of braille in communication. In a statement, one teacher was recorded saying “.....*Braille is very crucial to communication as this allows the children to read and understand what is being communicated to them.....*”

#### **Weaknesses:**

Limitations and barriers in communication methods such as a lack of supporting professionals were identified as weaknesses. As reported in the preceding chapter, there was no provision for specialized professionals such as tactile sign language interpreters to facilitate communication. Gillen, (2019) in his study on sign language interpretation explains that tactile sign language interpretation requires a unique set of skills and specialized training. Interpreters need to be proficient in both sign language and tactile signing techniques to effectively convey information to Deafblind individuals. However, there are a limited number of interpreters with expertise in tactile signing. As shown in the findings of this study, this lack of skilled interpreters poses a weakness as it resulted in a lack of access to qualified interpreters for Deafblind individuals and hindered effective communication access and support.

### **Opportunities:**

It was established in this study that parents and teachers employed an inclusive design approach to meeting the communication needs of Deafblind children. This inclusive approach involved the use of both tactile signing and real objects. One teacher had mentioned that “...*use both tactile signing and real objects you help the child create a mental image of the meaning of the sign*”. This approach can be recognized as an opportunity for communication as the combination of tactile signing and real objects engages multiple sensory modalities which enhance the learning experience and communication outcomes.

The findings highlight the importance of using multiple stimuli when communicating with persons with deafblindness. The tactile signing allows children to feel the movement and shape of the sign on their hands, while the real objects provide a concrete representation of the sign's meaning. Together, these modalities help children create a mental image that connects the sign with its referent. Pring, Latham, & Mann (2015) allude that when children can associate tactile signing with a tangible object, it strengthens their understanding of the sign's meaning. The tactile feedback, combined with the visual and tactile cues from the real objects, reinforces the connection between the sign and its referent. This multisensory approach aids in memory recall and retention of the sign's semantic content, as the mental image created provides a richer and more comprehensive representation of the sign's meaning.

Emerging technologies and innovations, accessibility improvements, collaboration, and advocacy efforts were identified as opportunities to enhance communication strategies and promote the rights and inclusion of Deafblind individuals.

### **Threats:**

Social and environmental challenges, systemic barriers, technological limitations, and disparities in communication access were identified as threats that may hinder effective communication for Deafblind individuals.

The study revealed technological limitations as threats in communication strategies. Some assistive technologies are expensive and not widely accessible. Some advanced assistive technologies that can support communication for Deafblind individuals may be costly and not widely available. One respondent revealed, “*Not many of us can afford assistive devices such as*

*screen readers, amplifiers, and braille transcribers.....that is why you see not many people with deafblindness using assistive devices for communication, it is because they cannot afford it”.*

Limited affordability and accessibility of these technologies can create barriers, preventing individuals from accessing the necessary tools for effective communication. This limitation further exacerbates the challenges faced by Deafblind individuals in participating fully in various communication contexts. As a result, Deafblind individuals face potential isolation.

## CHAPTER SIX

### CONCLUSION AND RECOMMENDATION

#### 6.1 Conclusion

This research study aimed to analyze the strengths, weaknesses, opportunities, and threats (SWOT) of communication strategies employed for Deafblind individuals. Through an in-depth examination of these strategies, their adaptations and modifications, and the challenges faced in communication, valuable insights have been gained. The findings of this study highlight the importance of tailored communication approaches that consider the unique needs and preferences of Deafblind individuals to foster effective communication and enhance their quality of life.

Strengths of communication strategies for Deafblind individuals include tactile signing, braille, tactile graphics, and assistive technologies. These strategies provide avenues for communication, promote independence, and facilitate social interaction.

However, the study also identified weaknesses, including limitations and barriers in communication methods, such as a lack of tactile sign language interpretation services. These weaknesses emphasize the need for ongoing efforts to improve the accessibility, effectiveness, and inclusivity of communication strategies.

Opportunities for enhancing communication strategies lie in the use of multisensory stimuli. Parents and teachers employed an inclusive design approach to meeting the communication needs of Deafblind children. This inclusive approach involved the use of both tactile signing and real objects.

Threats to effective communication strategies include social and environmental challenges, systemic barriers, technological limitations, lack of support staff, and disparities in communication access. These threats underscore the importance of addressing these obstacles and working towards creating a more inclusive and accessible environment for Deafblind individuals.



## 6.2 Recommendations

Based on the findings, the following recommendations are proposed to improve communication strategies for Deafblind individuals in Zambia:

1. **Training and Education:** Develop comprehensive training programs for Deafblind individuals, communication partners, and professionals involved in supporting them. Focus on imparting skills in tactile signing/gestures, braille literacy, and the use of assistive technologies.
2. **Accessibility and Resources:** Ensure the availability and accessibility of communication resources such as braille materials, tactile graphics, and assistive technologies. Advocate for their inclusion in educational, vocational, and community settings.
3. **Technological Advancements:** Prioritize affordability, compatibility, reliability, and user-friendliness in the design of these technologies. Advocate for inclusive and tax-free procurement processes for assistive devices.
4. **Collaboration and Partnerships:** Foster collaboration among Deafblind individuals, organizations, researchers, educators, and policymakers. Encourage the sharing of knowledge, best practices, and resources to improve communication strategies.

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## APPENDICES

### Appendix 1: Interview Guide for Teachers and Parents

#### Dear respondent

My name is Rachel Chomba. I am carrying out a study for Deaf-Blind International on the topic Communication for Deafblind People in Zambia- A SWOT Analysis. It is intended to investigate whether the communication strategies that are employed are effective and adequate for social inclusion for deafblind people. You have been selected to be one of the respondents in this research and be assured that all the information that you will give shall be treated with strict confidentiality.

#### SECTION A: Biographical Information

School----- Grades taught-----

General education qualification----- Special education qualification-----

Years of experience in special education----- Years in teaching service-----

#### SECTION B: Questions

1. At what age did the child/ren in your care become deafblind?
2. What communication strategies have you been using to communicate with the child?
3. What have been the challenges encountered in the communication strategies you have mentioned?
4. How often do the deafblind interact with others within the school and social environment?
5. Do you provide the child with the opportunity to participate in activities within and outside the home?
6. How do you know that essential communication has been achieved?

## **Appendix 2: Observation Checklist Questions**

1. How long does it take for the child to respond to communication attempts?
2. Is the feedback positive or negative?
3. Any assistive technology used?
4. Is the child willing to play when encouraged?
5. Any notable threats?

## INVITATION TO PARTICIPATE IN RESEARCH

Dear Teacher/Parent/Guardian,

You are cordially invited to participate in a research to be conducted by Ms. Rachel Chomba from The University of Zambia, Department of Educational Psychology, Sociology and Special Education.

The study seeks to conduct a SWOT analysis on communication with Deafblind people in Zambia. The research is supported by Deafblind International- Africa.

Participation in this study is completely voluntary. There are no anticipated risks associated with your participation in this interview. You are free to withdraw your consent to participate. The interview will be held at a mutually agreeable place and time. Any recordings of you or your child will be done with your consent and for purposes of maintaining privacy and confidentiality, you will be assigned a code during the interview and pseudonym used for the child to remove any personally identifying information during the study.

This study will also be carried out with oversight on Research Ethics involving humans. There will be no direct benefits from participating in this study and you will not be compensated. However, your participation may help establish the effectiveness of communication strategies employed when interacting with individuals with Deafblindness in both education and social setting in order to influence the development of inclusive and accessible communication support systems for Deafblind individuals.

For further information, you are free to contact the researcher on following number and email; Rachel Chomba: Cell phone number: 0972448209, email: rachealmuuma@yahoo.co.uk

Your response will be appreciated.

### **Participant's consent**

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and all questions I have asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

**Name of Participant** \_\_\_\_\_

**Signature of Participant** \_\_\_\_\_

**Date** \_\_\_\_\_

# ILLUSTRATIONS



Use of tactile and actual objects when teaching to aid communication



Registering presence and recognition of people by touching their heads



Adaptive technology for communication yet not accessible for all



Tactile learning materials to enhance understanding



Tactile communication



Tactile communication



Assistive Devices and Software for Deafblind (Expensive and not afforded by many)