

**INCLUSIVE CLASSROOM TEACHING PRACTICES AND ATTAINMENT OF
READING SKILLS AMONG LEARNERS WITH LOW VISION, KAMWENGESUB-
COUNTY, KAMWENGEDISTRICT**

BY

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DECLARATION

This research dissertation is my original work. It has never been presented for the award of any degree in any University.

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SUPERVISOR’S APPROVAL

This research dissertation titled “*Inclusive Teaching Practices and reading skills attainment for learners with low vision in Primary three classes - Kamwenge Sub-County, Kamwenge District*” by Nyirangirimana Esserie has been written and compiled with our guidance. It is now submitted for examination with our consent as supervisors.

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DEDICATION

This work is dedicated to my husband Mr. Tumwiringire Eric who has lovingly supported my education. To my children Rachael, Peter, Ritah and Paul who have never stopped praying for me when I was away from home. Thank you so much God bless you.

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ABBREVIATIONS AND ACRONYMS

CL	-	Collaborative Learning
DEO	-	District Education Officer
DIS	-	District Inspector of Schools
EMIS	-	Education Management Information System
LVI	-	Learners with Visual Impairment
MOES	-	Ministry of Education and Sports
NAPE	-	National Assessment for Primary Education
NCDC	-	National Curriculum Development Centre
SNE	-	Special Needs Education
UNEB	-	Uganda national Examination Board
UPE	-	Universal Primary Education
EFA	-	Education For All
CRPD	-	Convention on the Rights of People with Disability
UN	-	United Nation

ABSTRACT

Inclusive classroom teaching practices are core in attaining reading skills globally. This study aimed at investigating inclusive classroom practices and the attainment of reading skills among the learners with low vision in Primary three. The instructional materials used in teaching reading skills among learners with low vision. The relationship between collaborating learning and reading skills attainment for learners with low vision and the relationship between inclusive classroom environment and attainment of reading skills among learners with low vision. This study was carried out in Kamwenge sub county Kamwenge district in Western Uganda because of high incidences of low vision. The researcher used descriptive design and employed mixed research methods which involved both qualitative and quantitative descriptive methods. The study was conducted among 10 head teachers, 52 teachers and 76 learners with low vision. Purposeful and systematic sampling procedures were applied in selecting the schools, teachers, head teachers and learners with low vision. The methods used for collecting the data were interviews and observation. To improve validity and reliability of the instruments, piloting was conducted. Data was collected using interview guide, checklists and questionnaires and was analyzed using SPSS following the themes derived from research objectives. The findings revealed that instructional materials to help learners with low vision to read were missing in schools. It further revealed that majority of the respondents considered print materials to be the most commonly used instructional material to teach reading skills among learners with low vision and constituted 67.3%. It also confirmed that majority (68.2%) of the teachers considered grouping learners as the most common collaborative learning practices in class and majority (52.9%) of the respondents also considered the inclusive classroom environment to having rooms with materials displayed. The study concluded that there is a significant positive relationship between inclusive teaching practices and reading skills attainment. Secondly the relationship between instructional materials, collaborating learning and inclusive classroom environment and reading skills attainment were all found to be positively significant. The study recommended that the government should help the schools to secure instructional materials for learners with low vision to use during the learning process. It was also recommended that the Ministry of Education and Sports together with the school administration should ensure that the teachers deployed in the schools are well-trained and equipped to implement the Education for All policy.

CHAPTER ONE

INTRODUCTION

This chapter outlines the study's background, including its historical, theoretical, conceptual, and contextual framework, as well as its explanation of the problem, goals, and research questions, as well as its scope and relevance as well as its limitations and delimitations. Additionally included are theoretical and conceptual frameworks. Background information on the study's purpose is provided in this chapter.

1.1 Background of the study

The background of the study was presented into four perspectives that included; historical perspective, theoretical perspective, conceptual perspective and contextual perspective.

1.1.1 Historical Perspective

Around the world, there is controversy and worry regarding reading among students with limited vision. When it comes to teaching low vision students in inclusive classrooms, it causes additional worry in the field of special needs education. Low vision, according to Hoebe et al. (2020), is a severe loss in visual function that cannot be totally restored by regular glasses, cataract lenses, medical intervention, or surgery.

When the United Nations promoted Education for All at the World Conference on Education for All in Thailand in 1990, inclusive education attracted attention on a global scale. Additionally, a policy statement on inclusive education that came out of the Salamanca Conference in 1994 in Spain urged all countries, institutions of higher learning, and teachers to offer quality instruction to all students, including those with special needs and those who have

low vision, as they are not exceptional (López-Torrijo & Mengual-Andrés, 2015). The UN ratified the Convention on the Rights of Persons with Disabilities (CRPD) in 2006 as a means of achieving the EFA objectives. According to the CRPD (2006), Article 5 demands that all states *“take all appropriate steps to ensure that reasonable accommodations are provided.”* By recognizing braille as a means of allowing the inclusion of the visually impaired in conventional classrooms, Article 24 of the CRPD primarily focuses on people with visual impairment (VI).

Barsingerhorn et al. (2018) report on a study on the literacy abilities of children with impaired vision in the Netherlands, there were 0.1 to 0.2 children with visual impairment throughout Europe. Children who were blind or had low eyesight were included in this statistic. 2100 kids were listed as having visual impairments in 1998. These kids either attended special schools for visually impaired kids or attended conventional schools while receiving outreach assistance from a facility for the blind. Glatz et al. (2022) focused on kids who had reduced eyesight but still had enough remaining vision to read print. Teachers and other staff members who worked with low vision children in this report stated that these children did not develop reading skills on par with sighted youngsters. Research by Ramani et al. (2014) provided data to support the claim that *“children with low vision were poorer readers than sighted children.”*

Limited adaptive resources and specialized skills are the main challenge to teaching these learners with low vision in inclusive settings, according to a number of research conducted worldwide and in Africa (McCall, 2001; Kristiansen et al., 2003; ICEVI, 2005; Wamunyi, 2008). Because of a lack of funding from the governments in Africa and other developing nations, meaningful inclusive education is not being implemented (Abosi, 2000). According to Denier (2010), including children with low vision in the classroom entails teaching students who wear corrective lenses, patches, or eyeglasses; assisting in the identification of students who have

visual impairments but have not yet received a diagnosis; and modifying the curriculum to accommodate students who have non-correctable visual issues, such as limited vision and blindness. People primarily perceive their surroundings and the relationships between themselves and other objects through their sense of sight. It is obvious that persons with limited vision are unable to perform properly, and as a result, they need extra assistance.

Stanovich (2009) discovered that there was a connection between reading skills and reading interest in the same study that sought to determine whether inadequate reading abilities would lead children with impaired eyesight to lose interest and delight in reading for leisure. Children who read for pleasure were considered to be good readers in her study. This implied that having less reading experience was detrimental.

Akang et al. (2020) conducted research on the subject of “Impacts of low vision aids on the reading comprehension of learners with low vision” in Africa, more especially Nigeria. They discovered that, despite the fact that inclusive education is a widely accepted approach for their education, children with impaired vision were mostly educated in special schools for the blind. Knowing of how blind they are all students in these schools are required to learn and write braille. The study found that 80% to 90% of kids with visual impairments have enough residual vision, if handled properly, to allow them to operate as sighted people.

According to Armoh (2021), 40.1% of the 737,743 people with disabilities in Ghana are visually impaired. Additionally, it has been discovered that in Ghana, more than four out of every ten people with impairments are visually impaired in eight of the country's ten districts. Only 6.5% of Ghana's 288,868 school-age visually impaired people have attended a second cycle of education, and 40.1% have never received any kind of formal education (Armoh et al.,

2021). This indicates that in Ghana, more than 260,000 people with visual impairments do not complete the second cycle of education. As a result, the majority of visually impaired students are ignored and unseen in regular classrooms. This might be because there aren't enough financial and educational resources to meet the requirements of kids with visual impairments (Ocloo and Subbey, 2008).

Children with low vision were frequently enrolled in schools for the blind without having an eye exam in Tanzania, according to the rapid fire case report on children with low vision services reported by Tumwesigye et al. (2009). Many teachers in these institutions believed that reading was bad for the eyes and would eventually cause them to lose their sight. As a result, braille instruction should be provided for youngsters with low eyesight. In order to address these difficulties, the research suggested that improved low vision services and stronger connections between education and eye care be made.

Although there are more and more inclusive education methods in Kenya, there are still numerous obstacles to creating an inclusive educational system. By bringing the community together to determine the best ways to lessen their influence on inclusive practices, the barriers are being addressed. For learners with disabilities to have sustained access to a high-quality inclusive education system, a nationwide grass-roots approach to inclusive education is required (Oranga & Gaungying, 2019).

In 1997, the Ugandan government implemented Universal Primary Education (UPE). No matter their ethnic, social, or economic background, all students must attend the same primary school, or all government schools, according to the UPE policy. Learners with low vision are not

exceptional, and UPE has been working to integrate them into the Primary school education system (Jasper, 2019).

Giving all kids the chance to enroll in local schools was the main goal when UPE was first launched. While some children with severe learning disabilities attend special schools designed only for children with SEND, others who are blind require specific instruction. To encourage all children with various special educational needs to attend school, government schools became tuition-free and inclusive (Jasper, 2019). Due to lack of finance and teacher special needs education training, inclusive schools have grown to be a significant problem for educators, head teachers, and local school authorities. However, because UPE is backed by numerous national and international policies, the difficulties can be addressed. UPE Policy was not introduced in a vacuum; rather, it was closely related to national and international policies (Okech et al., 2021). The Guidelines on Universal Secondary Education (2007) and the Convention on the Rights of the Child (1998), both of which Uganda ratified, are the two most significant policies to highlight. The SDG4 mandates “ensuring quality education for all and promoting lifelong learning” as the most recent international initiative to care for all children (Lundy, 2012). Children with low eyesight are taken care of at the primary school level by the inclusiveness goal (SDG4) (Ekaju, 2011).

For students with low vision in Uganda’s normal inclusive UPE schools, a lack of proper resources continues to be a significant obstacle to reading proficiency (Ndyabawe, 2016). According to a 2015 UNICEF report, UPE attracted a lot of disabled students, including those who had visual impairments. According to the Education for All [EFA] Global Monitoring Report (2012), the enrollment of students with disabilities in UPE schools was approximately

97% for elementary education, and it was predicted that if certain requirements were completed, the number would increase to 100% in the following four years (Ndyabawe, 2016).

Children with impairments' learning requirements were regrettably not satisfied. (UPE report 2012; Ministry of Education and Sports (MOES) Sector fact sheet 2000–2012). Although mainstreaming is an advanced strategy for achieving the meaningful social inclusion of students with special needs that is desired, Dyson & Millward (2000) has cautioned educators that placing such students in regular classes without fully addressing their learning needs cannot be seen as a step forward in special needs education. The data sheet also showed that many Learners with Visual Impairment (LVI) students enrolled in UPE institutions eventually left because of inattention. Review of Primary Leaving Examination (PLE) results displayed in UNEB/SNE records from 2008 to 2012 demonstrated that Learners with Visual Impairment (LVI) consistently scored lower on standardized tests than sighted peers. Although Igune (2009) and Kristensen et al. (2003) conducted studies on the education of students with visual impairment in Uganda, none of them focused on aspects of teachers' Braille proficiency, adapted materials, equipment, and devices, or issues specifically related to the P.3 level classroom.

In order for students who have low vision to succeed academically, this diverse group of learners has a variety of issues and challenges that need for appropriate consideration when curriculum and instructional strategies are put into place. Low-achieving students struggle with not only understanding academic topics but also completing assignments and taking tests. As a result, their academic performance is in poor condition. As a result of these students' issues and challenges, more special education teachers are needed who are competent and talented in carrying out their work responsibilities (Agesa, 2014). In order to improve their knowledge and reading abilities, children with impaired vision must practice reading skills. However, the reason

for this is because learning to read requires the use of visual skills. Learning to read presents many difficulties for students with low vision. They halt frequently while reading, which causes them to read more slowly than their sighted counterparts since they typically categorize words at the letter level rather than the entire word level (Legge, 2016).

International Council for Education of People with Visual Impairment (ICEVI) (2005) carried out research in Uganda and the study's objective was to identify the essential element needed to admit students with vision impairment to inclusive classrooms. The conditions set forth by the study included the necessity for early identification, the provision of adequate training opportunities for inclusive classroom teachers, the provision of adapted materials and training in their use (Lynch et al., 2014). Despite the research that has been done, little is known about how poor vision students who are enrolled in inclusive classrooms actually learn to read. This study was started with a focus on the aforementioned elements in order to learn more about inclusive teaching methods and the development of reading abilities among learners with low vision.

Cost (2018) expressed his opposition to residential segregated environments for students with low vision. The practice of excluding visually impaired students from the class with whom they will live after graduation and isolating them from society, according to him, was the biggest error ever made. According to Fraser and Maguvhe (2005), some disabled children were moved to special schools that were frequently located far from their homes and countries.

1.1.2 Theoretical Perspective

Lev Vygotsky, a Russian psychologist, developed the social constructivism theory, which served as the study's main theoretical foundation. According to constructivism, rather than being a

passive process of obtaining knowledge, learning is an active process of contextualized knowledge construction. As the most crucial elements in an individual's development, Vygotsky emphasized the significance of the social environment for cognitive growth as well as culture and people. According to Vygotsky (1978), he established that interaction with the environment is essential for a person's growth. Group settings, where each person is aware of the intricate social connections in which they are involved, are where constructive processes are especially potent. Therefore, this article examines inclusive classroom approaches that can develop a setting that enables intelligent students and teachers to communicate with visually impaired students and help them learn to read. Vygotsky (1978), knowledge begins at the social level before becoming personal knowledge. This hypothesis described how classroom supplies, intergroup cooperation, and classroom instruction can assist students with impaired vision in developing their reading abilities.

Giving children with special needs, especially those who are low vision learners, equal chances to engage fully in regular classroom instruction and in daily life activities is the fundamental tenet of inclusive practice. The quality of education and social life for children with special needs (low eyesight) can be improved by inclusive practices. To support students with low vision, exhibit their knowledge and reading skills, and be able to acquire reading skills, teachers must employ a variety of teaching approaches and strategies. Children with limited vision cannot learn, retain, or apply knowledge if skills are taught in a passive manner in the classroom. Since the curriculum needs to be child-centered, inclusive classroom teaching techniques are absolutely essential. Practically, inclusive classroom teaching methods vary greatly within and within schools in many different nations. According to Eron's (2015) analysis,

there is a lot of confusion about how to educate inclusive environments in schools and how to teach inclusively.

1.1.3 Conceptual Perspective

The attainment of reading skills was the dependent variable in this study, and inclusive classroom teaching practices served as the independent variable. According to Wu Wu-TIEN (2005), implementing a wide range of curriculum content, including the promotion of social understanding, and implementing a supportive learning community are the main goals of inclusive education. Attainment of reading skills refers to achievement of abilities that pertain to a person's capacity to read, comprehend, interpret and decode written language and texts (Olufunke & Elizabeth, 2020).

Inclusive teaching practices refer to any number of teaching approaches that address the needs of learners with a variety of backgrounds, learning modalities, and abilities (Ambrose et al., 2010). These practices contribute to an overall inclusive learning environment in which all students are valued and able to succeed. Inclusive strategies aim to promote self-reflection and action for change. In this study the researcher paid attention to specific inclusive teaching practices such as instructional materials, collaborative learning and classroom environment to observe how they facilitated the attainment of reading skills. Instructional materials refer to the human and non-human materials and facilities that can be used to ease, encourage, improve and promote teaching and learning activities (Onyinyechi, 2020). They are whatever materials used in the process of instruction. Collaborative learning approach involves pupils working together on activities or learning tasks in a group small enough to ensure that everyone participates (Zubiri-Esnaola et al., 2020). Learners in the group may work on separate tasks contributing to a

common overall outcome, or work together on a shared task. A classroom environment is a space where learners and teachers gather together to continue in a safe environment that allows their knowledge and learning to thrive (Pressley et al., 2020). A classroom environment consists of many areas to take into consideration such as the physical environment, psychological environment, and classroom climate.

Attainment of reading skills is greatly dependent on the kind of inclusive teaching practices applied by the school. Different teaching practices can contribute to the acquisition of reading skills by learners with various abilities. Inclusive teaching settings where students with special needs are educated along with their non-disable peers have the highest constructive impact on their academic as well as social skills. In inclusive education environments, the aim is to increase the efficiency of the students with special needs and their peers in the courses by making adaptations to the teaching materials and instruction. Inclusive education environments aim to increase the efficiency of both the students with special needs and their peers who don't have special needs by adapting teaching materials and teaching method (Kędra, 2018; Akçamete and Gökbulut, 2018).

1.1.4 Contextual Perspective

Teachers are expected to teach all of these kids, including those with vision impairment, in the same classroom and environment as a result of the implementation of Universal Primary Education in Uganda. One of the measures put into effect by the Kamwenge district is the enrollment of kids who have vision impairments. There are 190 children with low vision in Kamwenge district from government aided schools with an average of nineteen in each class (EMIS, 2017). Kamwenge Sub County has 95 with Low Vision from the 10 government aided

schools. A sizable portion of P3 students are still in the “non-reader” and “letter stages” (EMIS, 2017). As demonstrated by our earlier tests, the majority of children are picking up the fundamentals of reading in the upper primary grades, even though they ought to have mastered them in the lower primary grades to get the most out of other curriculum components (Brunette et al., 2017). As a result, many primary school-aged children with low vision continue to struggling to develop their reading skills. Those with low vision appear to struggle to develop appropriate reading abilities and skills at the same rate as those without visual impairments hence this study seeks examine the relationship between inclusive classroom practices and attainment reading skills among learners with low vision in Primary three.

1.2 Statement of the problem

Learners with low vision can acquire reading abilities just like any other child if inclusive classroom teaching practices are implemented. They can acquire the fundamentals of reading, including vocabulary, reading fluency, phonemic awareness (the ability to recognize sounds), and reading comprehension. When teachers adopt inclusive classroom teaching practices, they can aid low vision learners in developing favorable conditions and applying their knowledge to a variety of contexts (Eron, 2015). According to a 2015 UNICEF report, Universal Primary Education (UPE) attracted a lot of disabled students, including those who had visual impairments with enrolment increasing from 2.6 million children in 1995 to 7.2 million in 2005 and 8.2m in 2018 (UWEZO, 2019; NPA, 2018a) with a guiding principle and policy that all learners should be able to learn. Furthermore the constitution of Uganda 1995 in Article 30 provides that all should go to school. Even the SDG4 speaks quality education which emphasizes that people with low vision benefit.

However, in Kamwenge Sub County evidence from the National Assessment of Progress in Education (NAPE) test results shows that in 2010, the average achievement score in literacy at the P3 level was 47 % below the average. In addition, 60 % of learners in P3 scored below the 50 % literacy proficiency level for their grades (Mulindwa & Marshall, 2013). According to the NDP III, there is poor quality and efficiency of primary education as evidenced by low literacy rates (49.9 % at P.3) (NPA, 2020a). According to Uwezo (2014), learners with visual impairments had lower literacy rates than normal students (Hemndolwa 2016).

With all the above statistics, it is evidenced that many children with low vision enrolled are not learning and do not have the competencies they require in reading in P3 in Kamwenge District. It is against such a backdrop that the researcher carried out the study on inclusive classroom teaching practices and attainment of reading skills among learners with low vision in Kamwenge Sub-County, Kamwenge District.

1.3 Purpose of the study

The purpose of the study was to examine inclusive classroom practices and attainment of reading skills among learners with low vision in primary three classes in Kamwenge Sub-county Kamwenge District.

1.4 Objectives of the study

The objectives of the study included the following;

- i. To establish the relationship between instructional materials being used and attainment of reading skills by learners with low vision in primary three in Kamwenge Sub-County.
- ii. To determine the relationship between collaborative learning in primary three and attainment of reading skills by learners with low vision in Kamwenge Sub-County.

- iii. To investigate the relationship between the inclusive classroom environment in primary three and attainment of reading skills by learners with low vision in Kamwenge Sub-County.

1.5 Research Questions

The study was guided by the following questions;

- i. What is the relationship between instructional materials being used in classrooms and attainment of reading skills among learners with low vision?
- ii. What is the relationship between collaborative learning and attainment of reading skills among learners with low vision?
- iii. What is the relationship between inclusive classroom environment and attainment of reading skills among learners with low vision?

1.6 Research Hypothesis

- i. There is no significant relationship between instructional materials being used and attainment of reading skills by learners with low vision in primary three in Kamwenge Sub-County.
- ii. There is no significant relationship between collaborative learning in primary three and attainment of reading skills by learners with low vision in Kamwenge Sub-County.
- iv. There is no significant relationship between the inclusive learning classroom environment in primary three and attainment of reading skills by learners with low vision in Kamwenge Sub-County.

1.7 Significance of the study

The study sought to justify that inclusive teaching practices improves attainment of reading skills among learners with low vision in P.3. This may in turn provide school administrators, teachers and other stakeholders with strategies to enhance inclusive teaching practices to improve reading skills of learners with low vision in P.3. The findings will be useful to school administrators, teachers, and policymakers as they work collaboratively to improve the attainment of reading skills among learners with low vision in early grades (P.3).

In addition, the findings may help school leaders to be better informed about meeting the needs of learners with low vision P.3 as they plan, write and implement their respective school improvement plans. The data may also assist in adding to the body of knowledge of all stakeholders who educate learners with low vision in lower primary.

The study may assist teachers to receive assistance from the Ministry of Education and Sports in setting up ongoing professional development opportunities so that they can acquire the knowledge and abilities necessary to assist learners with low vision in P.3 in their schools by teaching them to read and learn other subjects in inclusive classrooms. They might also profit from the government-provided resources, which would lead to better performance in the classrooms in terms of low-vision learners' reading abilities in lower primary.

The research may also be useful to curriculum writers as they revise their materials to enhance instruction for learners with low vision in P.3 and lower primary in general. The curriculum might also let the Ministry of Education track and assess how it affects the development of reading abilities in learners with low vision in P.3. It might also make it possible for them to

modify their strategies for teaching these learners to read effectively while using inclusive classroom practices.

In general, the findings may serve as a guide for all parties involved in caring for children with impaired vision to be more attentive to and focused on reading resources for these learners. This could help policymakers and the Ministry of Education and Sports create strategies that effectively support learners with low vision in P.3 in learning to read.

This study might push primary teacher colleges to step up their preparation programs so that instructors who meet the requirements can support these low-vision learners in inclusive classrooms and deal with the difficulties they encounter. It is also anticipated to give opportunities for relevant educational authorities to become aware of these issues and take action to provide the necessary support to advance inclusive education in the area.

1.8 The Scope of the Study

The scope of the study stipulates the geographical specifications of the study, the time within which the study would be valid and the context in which the study was conducted and what was expected to be collected.

1.8.1 Geographical Scope

The study was conducted in ten (10) Government aided primary schools in Kamwenge sub county Kamwenge District in the Western region of Uganda. The area was chosen because of the continuous poor performance of learners with low vision at primary level in reading as opposed to their counterparts (UWEZO, 2014).

1.8.2 Time Scope

The study considered a period from 2014 to 2019, because in this period that is when the National Assessment of different groups showed up the actual literacy performance levels of learners with low vision in Kamwenge sub county Kamwenge District.

1.8.3 The Content Scope

The fundamental reason for the study was to examine the inclusive classroom teaching practices and the attainment of reading skills among learners with low vision in a primary three. The study concentrated on instructional materials, collaborative learning and inclusive classroom environment used to teach reading skills to learners with low vision in primary schools inn Kamwenge Sub County Kamwenge District. In this study the researcher chose P.3 classes because it is the class where learners start learning to read while in other classes beyond P.3 learners reading to learn.

1.9 Limitations and Delimitations

1.9.1 Limitations

The study researcher was faced with challenges of limited time to conduct the survey mostly in the data collection process due to some respondents taking long to cmply.

The researcher also faced financial challenges due to sudden increase in prices which differed from the initial budget costs.

1.9.2 Delimitations

The researcher hired some of the research assistants who helped in the process of data collection to ensure that the exercise was conducted within time.

She further assured the respondents that this was purely an academic exercise that the information will be kept in confidence.

The researcher asked for more support from the family and colleagues to match the current budget.

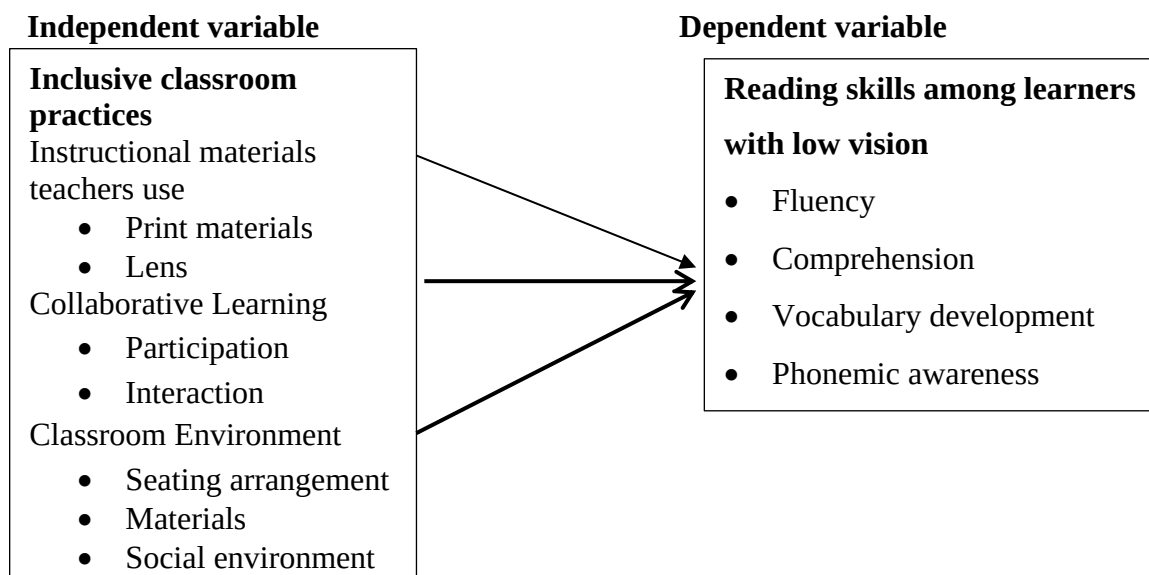
1.10 Conceptual framework

The conceptual framework figure shows the independent variable as an inclusive classroom practices. Inclusive classroom practice is the process that involves multiple agents and their interactions within the classroom as a system. The principle of inclusive practice is to give children with special educational needs equal opportunities to participate in everyday life activities and regular education classroom with normal peers.

The dependent variable is the attainment of reading skills among learners with low vision. It shows the indicators of reading skills among learners with low vision are expected to have developed.

The effective implementation of the curriculum based on the aspects of reading skills is expected to be the extraneous variable.

CONCEPTUAL FRAMEWORK



Source: Adapted from Vygotsky's Social Constructivism theory (1978)

Figure 1.1 shows the interaction between the two variables that were involved in the study that is inclusive classroom practices which is the independent variable and attainment of reading skills as the dependent variable. Inclusive classrooms teaching practices refer to the implementation of practices such as interactive learning, social environment, materials and seating arrangement. The primary teachers pre-suppose that when inclusive classroom practices are implemented in classrooms learners with low vision can attain skills such as phonics, fluency, reading comprehension, vocabulary and alphabetical principal which are the core skills of literacy.

The teachers however, believe that in the process of promoting inclusive classroom teaching practices through instructional materials, collaborative learning and inclusive classroom environment, is always disrupted by the intervening variables such as inappropriate choice of instructional materials, high cost of the materials, limited knowledge on the use of materials, government policies and curriculum.

1.11 Operational Definition of Terms

Below are the definitions of terms that were used by the researcher.

Attainment: It is something that has been achieved through effort.

Basic education: The minimum package of learning, knowledge, skills and values necessary to realize one's potential independence and to be able to contribute positively to the development of the local community and the nation at large.

Blindness: This is defined as the state of being sightless, totally unable to see anything.

Classroom environment: This is a designate area where all works regarding teaching and learning occurs.

Classroom teaching practices: These are issues in the classroom that affect the teaching learning process for example instructional materials, teaching learning methods and classroom environment.

Disability: This is an impairment that may be cognitive, developmental, intellectual, mental, physical, and sensory or some combination of these.

Impairment: Impairment is a problem in body function or structure or the state of being diminished, weakened or damaged mentally or physically.

Inclusive classroom practices: It refers to teaching strategy that takes into account learner's differences and makes use of them to guarantee that all learners have access to educational materials and can fully engage in their learning. It includes all that is done within the classroom setting.

Inclusive Education: Means all students who attend the same schools and share the same classrooms. For those who have historically been excluded, such as children with disabilities and speakers of underrepresented languages, it means actual learning possibilities.

Low Vision: Low vision is a severe loss of visual function that cannot be fully repaired by standard eyeglasses, cataract lenses, medication, or surgery. In this study, term is used to describe a situation in which students have some vision, but it is insufficient to read standard text and may also make it difficult to carry out other everyday duties.

Reading skills: This is an individual's capacity to read, understand, and interpret written words on a page of an article or other reading material.

Special Needs Education: This is instruction for students with disabilities that takes into account their unique educational needs and attempts to fully develop their talents, independence, and involvement.

Visual Impairment: When one or more visual functions of the eye or visual system are impaired, the learner's vision cannot be restored to a normal level. It is used as a broad phrase to refer to students in this study who have a variety of visual abilities, from low vision to absolute blindness. This is a vision impairment that makes issues impossible to solve with standard tools like glasses.

Fluency: It is the capacity to read a text swiftly, precisely, expressively, and comprehensively.

Uwezo: The effort, known as capacity in Kiswahili, measures the skills of school-age children in Kenya, Tanzania, and Uganda in order to gather data that would support educational policy and practice.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, relevant literature was examined under the following subtopics: the methods by which low vision students acquire reading skills; the teaching and learning tools teachers employ when teaching reading lessons; the degree to which general teachers accommodate low vision students in inclusive classrooms; and the level of participation of low vision students in reading. Studies and related material from throughout the world, as well as from Africa, especially Uganda, are included in this chapter. It focuses in particular on inclusive classroom strategies and the development of reading abilities among students with low vision.

2.2 Theoretical Review

Lev Vygotsky's social learning theory served as the foundation for the investigation. It says that we pick up knowledge through talking and interacting with other people. He proposed that

interactions between learners and their instructors, peers, and other experts are how learning occurs. He highlights that educators have the power to design a classroom setting that optimizes students' capacity for interpersonal interaction through dialogue, teamwork, and feedback. Vygotsky basically acknowledges that learning happens constantly and is inextricably linked to a social environment. A collaborative community of learners is thus facilitated by instructional practices that encourage the dissemination of expert information and require students to work cooperatively to do research, communicate their findings, and perform or produce a final product. Vygotsky (1962) described knowledge creation as taking place within a social framework in which students and experts collaborate on real-world issues or tasks, building on each other's linguistic, practical, and culturally molded experiences and skills (Vygotsky, 1978).

Scholars like Wells (1999) and Wertsch (2000) caution against oversimplifying Vygotskian theoretical viewpoints, therefore in order to give a framework for understanding this intricate phenomenon of inner speech, a synopsis of Vygotskian sociocultural theory is required. According to Vygotsky (1978, 1986), reading is a psychological tool, and using it always results in a number of internal or mental changes, like the emergence of higher order thinking and concept development. Reading plays a crucial role in the internalization process that leads to this shift in thought.

2.3 Related Literature

2.3.1 Instructional Materials and Attainment of Reading Skills by Learners with Low Vision

The use of instructional materials in the teaching and learning process is one of the classroom strategies used in an inclusive classroom to assist children with low vision and other learners in

achieving the requisite reading abilities. According to the study's primary goal, it is necessary to determine the connection between instructional materials and the development of reading skills in low vision students.

Low vision materials (devices), in the words of Gori et al. (2016), are instruments that aid those with low vision in making the most of their remaining eyesight. He continues by saying that reading with the remaining vision will teach the brain to understand visuals more readily and won't worsen eye conditions or vision loss. He discovered in a related investigation that low vision optical, electrical, and non-optical materials have been clinically shown to be effective and speed up reading. Prior to using them, only 16% of those with low vision could read; however, after using low vision devices, that percentage increased to 94%. Additionally, Gori et al. (2016) in his study advised using hand-held magnifiers and contrast filters to improve sentence structure and fluency when teaching and training low vision students in reading abilities. The study also suggested non-optical materials to help the students learn to read without damaging their vision, such as large print books, braille, and audial books.

The braille is one of many low vision teaching aids that can be used in the classroom to help children who are visually impaired. Teachers of students with low vision in inclusive classrooms must be proficient in braille, and it is also necessary to provide learning resources and tools to support inclusive classroom practices so that students with low vision can access higher-quality instruction and develop the necessary reading skills (Disability, 2011). All kids with low vision require resources and tools to assist them comprehend what they are reading in order to promote learning.

Agesa (2014) defines educational materials as things that can be used to enhance the effectiveness of learning new information and skills. The materials must be modified to help children with impaired vision learn to read in inclusive classrooms and curriculum since they are designed to suit a larger range of informal and formal educational requirements (Erin, 2003). Hayes & Bulat (2017) notes that employing locally produced, practical equipment and resources to help children with low vision might be difficult for parents and teachers. These difficulties are the same as those that Ugandan teachers of students with impaired vision deal with. According to Opie (2018), learners with low vision learn similarly to their sighted peers, but they still require special curricular and instructional modifications due to their inability to absorb visual information efficiently. These adaptations can just entail increasing printed materials to a size that is legible to students with impaired vision.

Many of the resources used in inclusive classrooms may be challenging for students who have low vision issues, such as the size and contrast of printed materials, which can significantly affect students who have visual impairments. These products are inappropriate since LVI youngsters were not considered in their development (Agesa, 2014). Children with low vision can read conventional print or utilize low vision aids including monoculars, telescopes, video magnifiers, and magnifiers to help them read more easily. Additionally, they might utilize a high-intensity lamp, book standards, or a computer with screen magnification software to magnify text and pictures (Kilpatrick, 2015).

Special materials and equipment can enhance reading skills of learners with low vision. The lack of early identification services, poorly prepared teachers, and insufficient resource allocation are only a few of the difficulties that come with inclusion (Mngo & Mngo, 2018). According to Winter (2005), social prejudices such as the absence of accessible facilities can

hinder the successful implementation of interactive activities in schools. Memorized facts, rules, and formulas are frequently disconnected from one another in a logical framework that would enable students to understand it in novel contexts rather than just memorizing facts (Alonge, 2005). According to Thomazet (2009), the ability of the school and the teachers to innovate and implement differentiation is a requirement for truly inclusive education.

In Ghana, more than 260,000 people with visual impairments do not complete the second cycle of education, according to a study done by Ocloo and Subby in 2008. As a result, the majority of low vision students are ignored and unseen in regular classrooms. According to Ocloo and Subbey (2008), this may be because there aren't enough financial resources or educational tools to meet the needs of kids with impaired vision. As a result, learning outcomes in reading may suffer.

According to Garzia and Ralph (2008), visual impairments such a visual field restriction can significantly affect a reader's ability to read. Learning is impacted by subtler visual issues that affect individuals differently and to varying degrees. Vision is a complex process with intricate connections to reading and learning. When assessing individuals who struggle with reading or other learning tasks, all aspects of visual function must be taken into account. Similar to that, treatment plans for vision issues associated to learning must be specifically created to address each person's particular requirements.

In their study, Taghinezhad & Khalifah (2015) discovered that audio books were effective in enhancing the education of low vision students by teaching them skills linked to sentence structure and fluency. Traditional educators frequently disregard students with limited vision by using procedures and educational materials as examples. Their performance reading is

relatively low, which is somewhat explained by this. This can be assisted by setting up ongoing professional development so that teachers are equipped with the information and abilities necessary to instruct children with low vision in the manner in which they can acquire and master reading skills and other academic subjects in an inclusive classroom. According to Taghinezhad & Khalifah (2015), there is no evidence-based research-based method to support instructors through continuous professional development on how to manage children with low vision in inclusive classrooms and how they can best develop reading abilities.

According to Zebehazy & Lawson (2017), dual learning (also known as dual media) for students with low vision refers to a situation in which students with low vision read and write in both print and braille at the same time. According to Fountas & Pinnell (2018), there are some young children in the category of learners with low vision who have adequate eyesight but have trouble reading print effectively and continuously. She goes on to say that because Braille is so usually linked to absolute blindness, these kids are hesitant to choose to use it. She goes on to say that although these kids tend to be “visual” in nature, they struggle with efficient and sustained reading of type. These students need a dual approach to learning, which includes both reading and learning. This strategy has been recommended by a number of authorities (Zebehazy & Lawson 2017; Leu et al., 2018).

The tiny one learns many things by imitating speech, attitudes, body positions, etc., claims (Kuhnke, 2016). Some of skills, like speech, are already non-visual and won't change for a youngster who is visually impaired. However, a substitute for visual imitation will need to be set up in situations like hand coordination. The visually impaired child observes individuals using silverware in the typical manner. Soon, he is copying and frequently spilling food all over himself and the wall while doing so. His imitation approaches the standard more and more over

time. When told to “Hold your fork right,” a sighted toddler can look about and see how others are doing it (Leu et al., 2018).

Teachers of students and eye-health professionals continue to discuss the most suitable medium for low vision students to learn to read in many different sections of the country. According to contemporary education, many people with limited vision who are given the right tools may read proficiently. The debate over whether to employ print or Braille in the education of learners with low vision is fueled by the divergent views held by practitioners regarding the best literacy medium for those with low vision (Kuhnke, 2016).

As a result, choosing the right literacy resources for low vision students has long been a challenge. For people with visual impairments, braille has served as more than just a literacy (reading) tool (Spungin, 2012). According to Spungin, the Braille appears to be a symbol of skill and excellence for some people. Best (1992) emphasized the significance of providing children with low vision with a variety of learning opportunities so that they can obtain the knowledge they require. This is because of the constraints of low vision. Richardson & Mishra (2018) (1995) advised the teacher to create a supportive environment and promote the use of relevant resources to ensure that the content was utilized to its full potential.

Richardson & Mishra continues, “Materials must be designed in such a way that they stimulate the child’s tactile, Kinesthetic (body movement), auditory, and olfactory senses because children with low vision who are unable to see the materials must rely exclusively on the other remaining sense.” By doing this, the information will be able to spark the child’s curiosity and imagination as well as serve as a discussion starter. Understanding piques a child’s curiosity,

keeps his attention span intact, encourages increased excitement for learning, and makes learning more concrete. As a result, it is simple to comprehend (Richardson & Mishra, 2018).

Ethiopian educators and educational leaders favor integrating kids with disabilities into regular classrooms. Ethiopia's inclusive education system, however, faced difficulties due to a shortage of suitable teaching resources for students who have impaired eyesight (Franck and Joshi, 2017). The implementation of inclusive education has also been called into doubt in South Africa due to a shortage of necessary instructional resources (Mphongoshe et al., 2015). Because they found it challenging to teach such students in classrooms without adequate materials to support the teaching and learning process, the majority of teachers in Ghana's Northern, Ashanti, and Central Regions believe that low vision children should be given special instructional materials (Gyimah et al., 2009).

In her study, Otyola et al. (2017) found that many poor vision students in Uganda's normal UPE schools lacked access to low vision aids. The results of a study by Crossland et al., (2017) on the advantages of utilizing optical low vision devices on a group of 530 persons revealed that they were effective and increased reading speed for nearly all poor vision students. There are no concrete examples or samples of any particular teaching materials utilized in Ugandan primary schools to instruct students with impaired vision, according to the linked literature the researcher researched. This causes the researcher to conduct the study in order to complete the knowledge gap and add to it by observing the teaching resources utilized in Ugandan schools to instruct students with low vision, particularly in Kamwenge District.

2.3.2 Collaborative Learning and Attainment of Reading Skills by Learners with Low Vision

In order to maximize both individual and group learning, collaborative learning (CL) refers to a collection of teaching and learning techniques that encourage student cooperation in small groups (two to five students) (Johnson and Johnson, 1999). One of the numerous elements that affect a child's education and success, particularly if they have a disability, is collaborative learning. Accessing materials is where low vision students succeed. Collaboration between blind and sighted students can foster learning opportunities and foster a stimulating learning environment; nevertheless, students with low vision must be immersed in the proper reading medium just as their sighted classmates are immersed in print (Morny, 2016).

Despite the fact that teachers often divide their class into distinct groups, Le's et al. (2018) research demonstrates that effective collaborative learning is not always promoted by the structure of these group interactions. Researchers who looked at the efficacy of CL identified difficulties faced by low vision learners during collaborative learning, such as unequal individual participation in group tasks (Lane, 2016) and students' lack of communicative and collaborative skills (Li & Campbell, 2008; Pauli et al., 2008). Teachers face similar difficulties when planning collaborative activities, including creating tasks that are appropriate for children of all abilities including those with low vision forming groups, controlling class time, and fostering and observing fruitful student collaboration (Hämäläinen & Vähäsantanen, 2011; Lane, 2016).

Studies on the use of CL to date have focused on the difficulties experienced by just one actor, either students or teachers (Popov et al., 2012; Gillies and Boyle, 2010). The underlying experiences of challenges that students have during CL, such as understanding the frequently stated issue of free-riding CL, are not appropriately addressed by focusing simply on teachers or students (Le et al., 2018; Popov et al., 2012). To achieve this, it is necessary to look into the choices educators make when creating collaborative assignments that are accessible to all

students, including those with low vision (Roseth et al., 2008). Since the task is not perceived as a true group task that necessitates the input of all group members, other learners are motivated to participate less than other group members (Lane, 2016). As a result, these decisions have an impact on students' perceptions of the collaborative task and collaborative behavior.

Vietnamese teachers and students prefer using collaborative activities in the classroom because doing so enhances students' learning skills, according to research done by Nguyen et al. (2012) at a teacher education faculty at a university in Vietnam, a country in Asia where CL has recently gained favor. Another study by Pham (2010) demonstrated that CL improves the subject-matter skills of low-vision students. Although these studies were carried out at University and in Vietnam, the basic principles of CL are the same everywhere. There was therefore need to establish at P.3 level in Kamwenge whether and how CL helps children with low vision.

The hallmark of inclusive education is giving all students in general education classes excellent instruction, intervention, and support (Vorapanya and Dunlap, 2014). (García-Carrión et al., 2018; Lamichhane, 2017) students with disabilities are assumed to be competent, build strong social interactions with classmates, and are fully participating members of the school community in inclusive schools, which have a collaborative and respectful school culture. According to research on dialogical interactions in educational settings, including those involving peers with low vision and teachers (García-Carrión et al., 2018; Mercer and Littleton, 2007), there is a good rapport between the two groups of people.

According to experimental and observational studies (Littleton and Häkkinen, 2013), collaborative conversation has a unique potential for problem solving and teaching reading skills. This includes activities that are curriculum-related. On the other hand, some observers of group

work claimed that the majority of conversations they saw in classrooms were uncooperative, off-task, and of little instructional value (Alexander, 2004). This is not the way that collaborative learning operates. A closer look at the pertinent data indicates that some group collaboration and communication strategies, particularly for learners with low vision, may be of special educational value. However, these strategies are not commonly used in classroom settings, especially in classes for young children (Littleton and Light, 2011). The researcher therefore needed to find out whether talking in group activities at P.3 level in Kamwenge District was being used by the children with low vision during collaborative learning.

According to sociocultural theory, education is enacted through interactions between students of various abilities and experts as well as between peers, reflecting the historical development, cultural values, and social practices of the societies and communities in which educational institutions exist (Wells, 1999; Wertsch, 1998). Intellectual development is viewed as an interactional accomplishment rooted in communicative practices. Education and cognitive development are consequently viewed as cultural processes in which information and meanings are "co-constructed" as shared interactional successes. This includes the methods by which children learn to read. Knowledge is not only shared among community members, but it is also possessed individually. Through participation in social events and behaviors that are influenced by cultural and historical circumstances, people develop knowledge and understanding together. Language is an important mediator of activity in these cultural practices on the social and psychological levels (Vygotsky, 1978, 1987).

According to Contreras & Chapetón (2017), teachers frequently have a negative or indifferent attitude toward collaborative learning since they don't have the necessary tools or training. According to studies conducted in Saudi Arabia and the United States, some students

without disabilities are opposed to the idea of collaborative learning because they believe that this type of learning would make it difficult for students with special education needs, such as those who are blind, to keep up with the lessons being taught in class (Alharti & Evans, 2017; Alqahtani, 2017).

In a school that is inclusive, kids without disabilities often speak out for their peers who do have disabilities, and they occasionally form friendships, according to Shogren et al. (2015) study in Canada. Additionally, some children who do not have disabilities exhibit certain inclusive behaviors toward their peers who do. These behaviors include prioritizing friendship above academics and providing companionship and support as well as assistance with schoolwork (Schwab, 2017). Because of this, when their peers without impairments in the regular classroom interact with them in a kind manner, students with disabilities feel welcomed and “important” (Brock et al., 2016). In order to ensure the success of inclusive education, it may be beneficial to strike a balance between the requirements of students with disabilities and those of students without disabilities.

Additionally, a study conducted in Malaysia by Bailey et al. (2015) found that the majority of instructors had a generally favourable attitude toward inclusive education. According to Zagona (2017), a fully inclusive educational model with special educators on staff is necessary for these favorable sentiments about inclusive education. Although these studies were conducted in Canada and Malaysia, do teachers in Kamwenge especially at P.3 level have the positive attitudes & willingness to help children with low vision master reading skills.

The relevant literature that was evaluated in regard to this objective demonstrates that poor vision learners, particularly in Malaysia and Canada, are successful in achieving academic support, including reading abilities, through collaborative learning. This is unlike the situation

that exists in Africa, namely in Uganda, where there is little written about the acquisition of reading abilities by children with impaired eyesight through cooperative learning. Therefore the researcher seeks to address the gap by investigating the relationship between collaborative learning and the attainment of reading skills by learners with low vision in Kamwenge Sub County, Kamwenge district.

2.3.3 Classroom Environment and Attainment of Reading Skills by Learners with Low Vision

According to Lämsä et al. (2018), teaching reading and learning to read (literacy), such as reading a book, requires different tools than studying math. In general, readers with impaired vision are able to read books in large print, which improves reading fluency and sentence contraction. In a manual or a text book, it's challenging to read regular-sized letters. The majority of visually impaired students move their heads excessively while reading, writing, or looking at pictures or letters. They frequently omit certain spaces.

According to a study done in Texas by Elmannai & Elleithy (2017), objects used by students with low vision need to be placed inside the child's line of sight. When reading, things that a kid needs to hold close to see should be raised on a slant board or other higher surface that doesn't require a head tilt. To help students with low vision participate in reading, teachers must arrange tables and chairs in a way that creates a clear path of travel (Ocloo & Subbey, 2008). This improves the students' reading skills, which in turn help them improve their sentence structure and fluency.

Asamoah et al. (2018) claimed that placing low vision students in inclusive classrooms gives them the chance to communicate, get to know one another, and share worries and experiences with cooperative, supportive sighted students. Further, he stated that children with impaired vision can compete favorably with their peers if they are given access to adapted materials like Braille books and are skilled in using the technology they have been given. Low vision students believe they should learn to read just like other kids. In addition, students frequently encounter difficulties throughout the teaching and learning processes in inclusive classrooms. For instance, brail methods must be taught. Many social and reading abilities are acquired through observation, according to Diener (2010).

In addition to reading strategies, teaching methods, curriculum content, aesthetic environment, and technological factors incorporated into reading due to dynamic technological advancements, children are likely to enjoy readings encrypted in a welcoming environment (Chou et al., 2016). Children's comprehension of reading information can be aided by thoughtful involvement with attractive surroundings while reading (Scanlon et al., 2016).

According to research, among the variables contributing to poor learning among children with visual impairments are the setting in which the learning takes place, a rigid curriculum, and inadequate evaluation practices (Fraser and Maguvhe, 2008). Because inclusive classrooms contain students with a range of learning needs and skills, inclusive learning environments should be distinct from regular learning environments (Simon et al., 2010). Some characteristics and requirements must be met in order for kids with limited eyesight to learn well. These include individualized instruction from qualified teachers, access to teaching and learning resources, braille readers, magnifying glasses, and adaptable teaching techniques (Simon et al., 2010). Therefore, an inclusive learning environment is one that encourages and promotes all students'

capacity for learning, regardless of the learning styles and diversity they may exhibit in the classroom (Simon et al., 2010).

Preferential seating, according to Adderley et al. (2015), is one of the most typical techniques low vision students require. This does not imply that they must sit in the front row of the classroom, adjacent to the teacher's desk, at all times. There are numerous situations in which having a pupil in front can be disastrous. A suitable type of lighting is needed while teaching low vision youngsters so that their reading demands can be met. Gori et al. (2016) suggested that the type of lighting used remain constant. He suggested that a child with impaired vision's capacity to learn various reading skills, such as fluency, vocabulary, comprehension, and phonemic awareness, depends greatly on the type and quantity of light that child is exposed to.

However, Erin (2003) discovered that certain low vision learners do not need more light since they are sensitive in low light as opposed to bright light, while others need higher lighting intensity to deal with vision. In order to encourage the teaching and learning of reading skills among students with low vision, the sitting arrangement should be able to match the learner's visual capacity.

According to a review of the literature from the United States, Asia, and Africa (Bailey et al., 2015; Gyimah et al., 2009), teachers' views about inclusive education appear to be influenced by the severity of the impairment and the availability of resources to facilitate inclusion. Teachers typically find it challenging to accommodate the requirements of visually impaired pupils in the normal classroom and believe that doing so would undermine the objectives of inclusive education by decreasing academic standards (Hsieh & Hsieh, 2012). When there aren't enough resources for learning and teaching that foster inclusiveness, this problem gets worse.

According to a survey done in Ethiopia, teachers and school officials are in favor of including pupils with impaired vision in regular classrooms. However, Ethiopia's inclusive classroom setting faces difficulties due to a lack of proper training and supplies (Franck and Joshi, 2017). The use of inclusive classroom techniques has also been shown to be problematic in South Africa due to a lack of necessary resources and effective administration (Mphongoshe et al., 2015). According to a study conducted in Nepal, a teacher's years of education and teaching experience are favorably connected with how they instruct students who have visual impairments (Lamichhane, 2017). However, a Ghanaian study (Gyimah et al., 2009) found no evidence of a connection between teaching experience and changing one's teaching style.

Furthermore, due to insufficient training and resources, some Ghanaian instructors have negative opinions of inclusive classroom methods, according to a research by Ocloo and Subbey (2008). In light of this, teachers are more likely to adopt positive attitudes toward inclusive classroom practices when given the necessary tools and training (Ocloo and Subbey, 2008). This may help to create an environment where learners with low vision can develop their reading skills as well as other skills in other subject areas.

Another study from three schools of education in Ghana found that few teachers were equipped to work with students who had special education requirements, such as the blind and deaf, despite the fact that majority had been trained in inclusive classroom techniques (Asamoah et al., 2018). According to Asamoah et al. (2018), teachers seemed to favor inclusive educational approaches that were simpler to implement when dealing with students who had partial impairments.

Prior to their child's enrolment in the school, Sharma et al. (2018) found that the majority of parents of children with disabilities had neutral or favorable sentiments toward inclusive

education. Of the 389 participants, 64% were in favor of inclusion for their low vision children, while 26% were neutral. Six primary schools in a suburban school district in the Pacific Northwest of the United States participated in their study, which was carried out there. The full inclusion concept was embraced by the schools chosen for the study, which may have had an impact on the results (Sharma et al., 2018).

On the other hand, Ntinda, & Hlanze (2015) discovered that parents of kids without impairments believed their kids would suffer if they were placed in a classroom among students who had disabilities. In the same study, parents of children and kids with disabilities expressed concern that their kids would be left out of activities in the regular classroom because the majority of them had experienced prejudice at the hands of their peers. It is difficult to reach a consensus in favor of inclusive education because of these conflicting results. However, inclusive education is more likely to be successful when teachers, students, parents, and school officials are aware of its guiding principles (Sharma et al., 2018).

Most instructors in Ghana's Northern, Ashanti, and Central Regions believe that special schools should be established for children with impairments since they find it challenging to teach these pupils in a regular classroom setting (Gyimah et al., 2009). However, they have a better attitude toward kids who have mild disabilities, such as those who have limited vision (Gyimah et al., 2009). This could imply that the different sorts of disability affect how well inclusive classroom strategies work. This prompted the need to determine how supportive Kamwenge District teachers are of having low vision students in their classes.

Successful inclusive education, in general, places modification of the teaching and learning environment at its core. Learning will be automatically suspended if the environment is not accommodating for students who have low vision (Rhim & Lancet, 2018). According to

research, inefficient reading among learners with low vision is caused by a variety of variables, including the environment in which learning takes place, rigid curricula, and improper evaluation methods (Fraser & Magurhe, 2008). Because inclusive classrooms contain students with a range of learning needs and skills, the inclusive learning environment should be distinct from the typical learning environment (Simon et al., 2010). Assistive devices like braille and magnifying glasses, teaching and learning resources, special services from trained teachers, flexible teaching methods, and assistive devices like magnifying glasses are all necessary for low vision students to learn effectively (Simon et al., 2010).

Based on the literature reviewed for the study conducted by the different scholars, the findings shows that there is limited literature about inclusive classroom practices and attainment of reading skills among learners with low vision in primary three in Africa and Uganda is not exclusive. The researcher therefore seeks to conduct a study on inclusive classroom practices and attainment of reading skills among learners with low vision in primary three in Kamwenge Sub-County so as to fill the gap identified above.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The approach used to conduct the study is described in this chapter. It covers the following: research design, study setting, study population, sample size and sampling methods, research tools, measurement, validity, and reliability, data gathering process, processing, and analysis of the collected data, as well as ethical considerations.

3.2 Research Design

The research design for the study was descriptive. This study tries to gather data for a systematic description of a phenomena, circumstance, or population (Daher et al., 2017). This strategy was chosen because it enables researchers to fully explore the background of a study problem prior to conducting additional research (Ebneyamini & Sadeghi, 2018). Because the descriptive technique of research does not control or modify any variables, the study used a descriptive research design. The variables are just named, observed, and measured in its place. The factors in question were investigated using a variety of research approaches, including the descriptive method. Although qualitative data was occasionally used for descriptive purposes, it mostly utilised quantitative data (Ebneyamini & Sadeghi, 2018).

3.3 Research Approach

When collecting data, mixed approach was used, choosing a mix of qualitative and quantitative approaches. To produce quantifiable data that explains inclusive classroom practices that support the development of reading abilities among students with low vision, quantitative data was collected via questionnaires, allowing the researcher to produce this data. Using a qualitative research methodology, information about whether students with low vision acquire reading abilities in an inclusive classroom was gathered from key informants, who are the headteachers, using observational and interviewing guides.

The researcher used these techniques because the data was combined to show that the study's conclusions could be relied upon and trusted (Denscombe, 2017). Haq (2015) advocated the employment of both qualitative and quantitative methodologies as a crucial kind of triangulation in a study including lots of participants.

3.4 Location of the Study

The study was conducted in Kamwenge sub-county which is one of the four sub counties in Kamwenge district. Kamwenge district itself is found in the western region of Uganda. There are a number of primary schools in the district but the study was conducted in 10 aided government schools because that is where MDL learners with low vision are enrolled.

3.5 Target population

The target population of this study comprised of 190 learners with low vision enrolled in 10 UPE schools in Kamwenge Sub County (EMIS, 2017). This is because they are experienced usual effects of impairment in an inclusive classroom in P.3. The study targeted a population of 60

teachers, 3 head teachers of schools and 1 inspector of schools in charge of special needs in Kamwenge district in the western region of Uganda.

Table 3.1: Distribution of the Target Population in the Selected Schools

No	Schools	Learners			Head teachers
		Boys	Girls	Total	
1	A	4	5	9	1
2	B	6	5	11	1
3	C	2	6	8	1
4	D	5	8	13	1
5	E	4	6	10	1
6	F	3	5	8	1
7	G	4	7	11	1
8	H	5	6	11	1
9	I	3	5	8	1
10	J	2	4	6	1
	Total	38	57	95	10

Source: EMIS (2017)

3.6 Sample Size and Sampling Techniques

3.6.1 Sample size

Various writers have suggested using specific minimum percentages for figuring out the sample size for the accessible population in a study. However, Bujang (2018)’s “the rule of thumb” was

used to determine the sample size for this investigation. He stated that students should be allowed to choose the appropriate sample size for their studies by weighing the accuracy and consistency of the population that is easily accessible, the technique of sampling, and the type of investigation. In order to calculate the sample size, the researcher used the table from Krejcie and Morgan (1970). The results of the sampling strategy are displayed in Table 3.2.

Table 3.2: Summary of the Target Population and Sample Size

Category	Population	Sample size	Sampling Technique
Head teachers	10	10	Purposive sampling
Teachers	60	52	Purposive sampling
Inspector of schools	1	1	Purposive sampling
Learners with Low vision	95	76	Random sampling
Total	164	139	

Source: Krejcie and Morgan (1970)

3.6.2 Sampling techniques

Schreier (2018) defined sampling as the act of choosing a number of subjects for a study in a way that ensures each subject accurately represents the wider group from which they were chosen. Simple random sampling techniques were used with purpose. Simple random sampling was utilized because it reduces sampling bias, which enhances the accuracy and representativeness of the results. The ideal sampling approach is one in which a group of study participants is chosen from a sizable population. Every person is randomly selected, and each

person in the population has an equal probability of being in the sample. By using a random sampling technique, prejudice among other low vision learners who were not chosen for the study might be avoided. In of the 10 schools chosen there were more than 7 learners with low vision in primary three.

Purposive sampling technique was employed in this study to obtain the detailed information regarding the relationship inclusive classroom practices and attainment of reading skills by learners with low vision from the teachers, headteachers and inspector of schools in charge special needs in the district. This technique was used to obtain information from the teachers, headteachers and inspectors of schools as key respondents in the study because they had more knowledge on the inclusive classroom practices and attainment of reading skills by learners with low vision. Both male and female teachers were chosen, with males being 28 and females 24. P.3 class was selected because at this level that was when children are learning to read. They gave advice on inclusive classroom strategies for helping learners with low vision read fluently. The commencement of the first interval was arbitrary (Rai & Thapa, 2015). In the study five (5) teachers were select from each school except two schools which had higher population where the research selected six (6) teachers instead of five (5).

3.7 Data Collection Methods and Instruments

3.7.1 Data Collection Methods

Data collection methods are techniques and procedures for gathering information for research purposes. The data collection methods used in this survey included; interview method, questionnaire method, observation, and focus group discussion method.

3.7.1.1 Interview Method

An interview is a qualitative research method that relies on asking questions in order to collect data (Adedoyin, 2020). Interviews involve two or more people, one of whom is the interviewer asking the questions. There are several types of interviews, often differentiated by their level of structure. The method is used to gather in-depth information about the problem under investigation from the respondents. For this study the researcher used interview method to gather in-depth information about attainment of reading skills by learners with low vision in P.3 classes in 10 selected government primary schools in Kamwenge District. The interviews were conducted with the headteachers and inspector of schools in charge special needs education in Kamwenge District.

3.7.1.2 Questionnaire Method

A questionnaire is a list of questions or items used to gather data from respondents about their attitudes, experiences, or opinions (Fife-Schaw, 2020). Questionnaires can be used to collect quantitative and/or qualitative information. Questionnaire method was used because it helped to collect data from a number of respondents at the same time. The method also provided the respondents ample time for the survey since they could fill the questionnaires at their convenient time. The researcher used questionnaire method to collect data from the teachers in the selected primary schools.

3.7.1.3 Observation Method

Observation is way of gathering data by watching behavior, events, or noting physical characteristics in their natural setting (Katz-Buonincontro & Anderson, 2020). Observations can be overt (everyone knows they are being observed) or covert (no one knows they are being observed and the observer is concealed). Observation method is used to collect data where and

when an event or activity is occurring. It allows the researcher to directly see what people do rather than relying on what people say they did.

3.7.1.4 Focus Group Discussion Method

A focus group discussion is a group interview of approximately six to twelve people who share similar characteristics or common interests (Morrison et al., 2020). A facilitator guides the group based on a predetermined set of topics. The facilitator creates an environment that encourages participants to share their perceptions and points of view.

3.7.2 Data Collection Instruments

Focus group discussion (FGD) guides, interview guides, questionnaire guides, and observation guides were all used as study instruments. From (Bell et al., 2019), the observation manual was adapted. This approach is crucial because it makes it possible to compile comprehensive data necessary for the investigation (Sivarajah et al., 2017). There were closed-ended and open-ended question templates in the survey and interview guidelines.

3.7.2.1 Interview guides

Two sets of interviews were used to collect data from head teachers and the Inspector of primary schools. The data collected was descriptive and reflective in nature. Some of the aspects of the interview aspects included the approaches teachers use to teach learners reading during teaching and learning process, teaching /learning materials teachers use in inclusive classroom practices to help learners with low vision attain reading skills.

The interviewees were briefed about the purpose and the time scheduled for the interview. Each interview session lasted approximately 30 minutes but it may be extended with the consent of the interviewee and depending on the need.

3.7.2.2 Focus Group Discussion Guide (FGD)

Focus Group Discussion was administered to learners with low vision in inclusive classroom practices. The discussion was focused on some of the following aspect “the instructional materials used during reading lessons, how teachers involve learners with low vision during teaching and learning process, collaborative learning and classroom environment”.

3.7.2.3 Observation Checklists

The researcher observed literacy lessons that were being conducted by teachers in inclusive classrooms in P.3. The intension was to find out how learners with low vision were being involved during the teaching and learning process to help them in an inclusive classroom. The checklist was used to identify the instructional materials, collaborative learning process and classroom environment setting that were being used by children with low vision to develop reading skills.

3.7.2.4 Questionnaire

Permission was requested from the head teachers to meet the teachers who are teaching P3 class. The meetings were conducted in a convenient place in the school. The researcher explained to the teachers the purpose of consultation and highlighted the significance of the education of learners with low vision. The teachers were given sufficient time to fill the questionnaire before handing it to the researcher.

3.8 Measurement

The open ended and close ended questions were used to determine the responses of the respondents. The questions were asked in a way to capture the respondents’ opinion on the inclusive classroom practices and attainment of reading skills. The questionnaires distributed

were 52 (100%) and 52 (100%) were retrieved from the respondents. Since the percentage was greater than 50% average this therefore made the survey valid and gave the researcher a go ahead to proceed with the analysis of the findings.

3.9. Validity and Reliability of instruments

3.9.1. Validity of instruments

Kombo & Tromp measurements were made in order to address the instruments' applicability. According to Kombo & Tromp (2006), an instrument's validity is determined by how well it captures the intended data. The study's conclusions were strengthened by the use of reliable instruments.

To determine if the items in the questionnaires, interview guides, and observation guides were appropriate, the study used 10 specialists in special education, the inspector in charge of special education needs, four lecturers, and tutors of special education needs. They were given a tool to check out each item they believed was appropriate. The content validity index that was calculated was 0.8. It was calculated in this way.

$$\text{Content Validity Index (CVI)} = \frac{\text{Number items rated relevant}}{\text{Total number of items}}$$

The CVI of 0.8 is above 0.7 which is regarded as the minimum for the instrument to be regarded as valid (Kombo & Tromp, 2006). Therefore the instrument used for data collection was valid.

3.9.2. Reliability of instruments

Stemler (2019) defined reliability as the extent to which a test would give consistent results if applied by different researchers more than once to the same people under different conditions. Reliability of the instruments was tested using Pearson's method of testing reliability. The results of the reliability test gave the alpha value of 0.703. Sekaran argues that for an instrument to be considered reliable, the reliability alpha should be 0.7 or above (Daud et al., 2018). The alpha value 0.703 was greater than the minimum value of 0.7 thus rendering the instrument reliable.

3.9.3 Pilot Study

In a school with similar characteristics to those included in the research project, a pilot study was carried out. In a school that was not a part of the study, low vision students, teachers, head teachers, and an inspector of schools in charge of special needs were given a prototype run of the project's interview schedules, questionnaires, and observational guides. The pre-testing of the instruments was done as part of the pilot study to make sure they were fit for the intended use and to make it easier to think about their validity and reliability. The full-scale research procedure benefited from the pilot study's results.

3.10 Data collection Procedure

An introductory letter was given to the researcher from the Faculty of Education authorizing her to conduct the study. This letter was then taken to the Chief Administrative Officer Kamwenge District Administration to allow her to conduct the study from their schools. Thereafter the researcher, using the relevant instruments, collected various types of data as per the objectives of the study. The researcher visited the sampled schools on appointment to observe the checklist instruments during lessons in progress.

3.11 Data processing and Analysis

The examination of qualitative data was done using content analysis. This approach focuses on explaining the status of a phenomenon at a specific moment in time or how it has changed over time (Mayring, 2015). Themes were created and the data was coded. This was important for determining the level of reading proficiency among students with low vision

Quantitative data was entered into Microsoft excel and transferred SPSS software for analysis. This was relevant for finding out classroom practices that enhance participation of learners with low vision to attain reading skills.

Qualitative data analysis involved both thematic and content analysis, and was based on how the findings were related to the research questions. Content analysis was used to edit qualitative data and reorganize it into meaningful shorter sentences. Thematic analysis was used to organize data into themes and codes were identified (Clarke & Braun, 2017). After data collection, information of same category was assembled together and their similarity with the quantitative data created, after which a report was written. Qualitative data was interpreted by composing explanations or descriptions from the information. The qualitative data was illustrated and substantiated by quotation or descriptions.

3.12 Ethical considerations

Forms that distinguish between appropriate and inappropriate behaviors are considered ethical concerns. There are techniques for choosing how to respond to a specific incident, says Sterling & Gass (2017). Some processes were followed prior to the data collection. To obtain their informed consent regarding the goal of the study, letters were addressed to the respondents. The

researcher then made sure that the respondents who were willing were involved. The researcher protected the respondent's opinions and made sure they were kept private.

They were given an explanation that the information that they gave would be used for study purposes only. Their identities would remain anonymous. This was done to avoid ethical breaches in the research.

The researcher ensured that the young children with low vision were given free opportunity to demonstrate their attainment of reading skills while ensuring that the process does not endanger their lives.

The researcher established what was officially accepted or practiced for P.3 children who are infants whose "informed consent" would be doubted.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

The findings, analysis, and discussion of the study's data are presented in this chapter. Themes derived from the specified objectives are used to organize the findings. Both quantitative and qualitative analytic techniques were used, and the qualitative findings from focus group discussions and interview guides are used to support the presentation of the quantitative findings. The chapter is organized around the following themes: instructional materials used by teachers in inclusive classrooms to teach students with low vision during reading lessons, approaches used by teachers to help students with low vision learn to read, and classroom environments that encourage student

4.2 Instructional Materials and Attainment of Reading Skills by Learners with Low Vision

This objective was meant to guide the researcher to find out the respondents' view on the materials that are being used to teach the learners with low vision reading skills. This was done because it could provide the researcher an insight into the effect of the materials on the attainment of reading skills by the learners who use a specific material.

4.2.1 Findings on Low Vision Instructional Materials Used to Teach Reading Skills to Learners with Low Vision in Various Schools

The first task was to find out the materials used to teach reading skills to pupils with low vision in primary three in selected primary schools in Kamwenge Sub-County. Table 4.1 presents findings on the materials used in teaching reading skills to the learners with low vision.

Table 4.1: Low Vision Instructional Materials Used to Teach Reading Skills

Low vision teaching materials	Frequency	Percentage (%)
Braille	10	19.2
Prints	35	67.3
Tactile materials	10	19.2
Lens	26	50.0

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.1 shows that five different low vision teaching materials were identified and used for the study. The respondents were asked to determine the materials they use to teach reading skills to the pupils with low vision in their schools. The results shows 35(67.3%) respondents revealed that prints was the major material used to teach reading skills to pupils with low vision, followed by 26(50%) who said that lens were also used, and the least 10(19.2%) revealed that braille and tactile materials were the least materials used respectively. The findings reveal that at least each respondent considered using more than one type of teaching materials in their classrooms. The results therefore imply that teachers use different teaching materials to teach learners with low vision reading skills.

One of the headteachers, during an interview said that “*we used several teaching materials in their classrooms because of the difference in the nature of visual impairment by the pupils in their schools and so the need to use different materials*”. Most of the interviewees were of the view that learners with low vision suffer different effects which need them to have materials that can meet all their different needs. The researcher furthermore was able to observe some learners in three different classrooms using prints, audial books and others wearing lens in classrooms during literacy lessons in their schools.

The researcher using the observation checklist was able to find out that majority of the children with low vision in the schools were commonly using lens, print materials and brail materials for development of reading skills in P.3 in Kamwenge District.

In a focused group discussion with the selected children 75% of the children with low vision revealed that they use print materials during reading, 15% used lens and only 10% used brail materials during the reading lessons.

4.2.2 Findings on the Outcome of Instructional Materials on the Attainment of Reading Skills by Learners with Low Vision

Teachers were asked to explain whether teaching materials had a significant outcome on the reading skills of learners with low vision. Table 4.2 presents findings on the outcome of teaching materials on the reading skills of learners with low vision.

Table 4.2: Outcome of Instructional Materials on the Attainment of Reading Skills by Learners with Low Vision

Impact of teaching materials	Frequency	Percentage (%)

Improves on the reading skills	38	73.0
Improves on the performance in other subjects in class	32	61.5
Develops their writing skills	29	55.8

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.2 reveals that majority of the respondents 38(73%) considered the use of teaching materials to be improving on the reading skills of learners with low vision, followed by 32(61.5%) percent who considered the teaching materials to be improving on the performance in other subjects in class and those who considered the teaching materials to be developing the learner's writing skills constituted the least population 29(55.8%). The results therefore imply that the use of different materials in teaching learners with low vision reading skills enables them to gain other benefits related to academics.

An inspector in charge Special Educational Needs, of primary schools in Kamwenge district in an interview said that *“majority of learners with low vision in their respective schools who were able to interact with different materials vision able to gain other academic benefits like improved performance in several subjects, improved reading skills and writing skills”*. Most of the headteachers were of a view that the more learners with low vision interact with various materials required to teach learners with visual impairment the more skills they develop in different subjects taught in class.

Furthermore the observation made in class by the researcher showed that learners write in their books after reading in the literacy class and was also able to hear one of the learners read fluently during a mathematics lesson.

4.2.3 Findings on the Challenges Faced By Learners in Using the Instructional Materials

The researcher endeavored to establish whether learners with low vision face challenges in using the teaching materials. Table 4.3 presents findings on responses on the challenges learners with low vision face in using the materials.

Table 4.3: Teacher’s Response on the Challenges Learners with Low Vision Face in Using Instructional Materials

Response	Frequency	Percentage (%)
Yes	36	69.2
No	16	30.8
Total	52	100

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.3 reveals that 36(69.2%) of the respondents agreed that learners with low vision face challenges in using the teaching materials and they constituted the highest population of the respondent. The respondents who disagreed constituted 16(30.8%) of the respondents. The results above show that however much the learners are availed with the materials to use, they also face some challenges in using the materials.

One of the headteachers in an interview, said that *“not all learners were able to use the various materials provided to them to develop the reading skills due to different challenges like the contrast in the size of the print books, color contrast and the knowledge of using braille material during the course of interacting with the materials”*. Majority of the headteachers were

of the view that learners with low vision face challenges in using the different materials used to teach reading skills to learners with low vision.

The researcher while using the observation guide was able to identify three schools where children with low vision were struggling to read in class without using any of the materials which could assist them to attain reading skills.

In a focused group discussion, majority of the children with low vision revealed that the size of the print materials were not favourable for them since most of the print materials had small font and this affected them during the reading lessons.

4.2.4 Findings on the Challenges Faced By Learners in Using Instructional Materials

The researcher endeavored to establish the challenges learners with low vision face in using the teaching materials. Table 4.4 presents findings on the challenges learners with low vision face in using the materials.

Table 4.4: Challenges Faced By Learners with Low Vision in Using Instructional Materials

Challenges Faced By Learners with Low Vision	Frequency	Percentage (%)
Font size of printed materials	34	75.0
Skills of using some materials like the braille, audial books	11	25.0

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.4 shows that majority of the respondents 34(94.4%) considered the font of printed materials to be the major challenge that learners with low vision face in using the teaching materials, and those who considered skills of using some materials like the braille and audial books constituted the least population 11(30.6%). The findings therefore furthermore revealed

that learners also face challenges in using the materials they are given to use which need some training before starting to use these materials. The respondents in the study gave multiple responses on the challenges faced in using the instructional materials.

The results of focus group discussions with children with low vision revealed that majority of the learners had challenges with the size of the printed material which had small fonts and were difficult to use, followed by the children who revealed that they didn't know how to use the materials they were given.

One of the head teachers also revealed that some learners face challenges in using the materials they are given to use. The respondent furthermore went ahead and said that *“some of the prints have tiny letters that some of these learners struggle to read while other materials need them to be trained on how to use them like the braille and audial books”*. The researcher was also able to see some learners in one of the classrooms struggle to read because the size contrast of the print material during a mathematics lesson.

Researcher was able to observe that some print materials were printed in Time New Roman and had small fonts which were not good for the children with low vision in P.3 yet some of them even never had lenses to magnify the size of the words.

4.2.5 Findings on the Challenges Teachers Face in Incorporating the Use of Instructional Materials in Classrooms

Teachers were asked to explain the challenges they face in incorporating the use of teaching materials into the classrooms. Table 4.5 presents findings on the challenges teachers face in incorporating the use of teaching materials into the classrooms.

Table 4.5: Challenges Teachers Face in Incorporating the Use of Instructional Materials in Classrooms

Challenges teachers face	Frequency	Percentage (%)
Limited skilled teachers	25	69.4
Inadequate finance to access the resources	29	80.5
Inaccessible facilities by the learners	17	47.2
Lack of skills to identify the students	10	27.7

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

The study revealed that majority of the respondents 29(80.5%) considered inadequate finance to access the resources to be the major challenge by faced by teachers in incorporating the use of teaching materials into the classrooms, followed by 25(69.4%) who considered Limited skilled teachers to be another challenge and those who considered lack of skills to identify the students in incorporating the use of teaching materials into the classrooms constituted the least population 10(27.7%). The findings also reveal that at least each respondent was able to give more than one challenge that they face in incorporating the use of teaching materials in their classrooms.

In a focused group discussion with the children with low vision, majority said that their schools didn't have some of the materials for learners with low vision that they needed to help

them learn different competences which made it difficult for some teachers to incorporate them in classrooms.

One of the head teachers during an interview revealed that in some schools they have classrooms that are not accessible and cannot allow them to incorporate teaching materials in them and such buildings could probably be too old to be use. The respondent further said *“some of the buildings we have in the school are incomplete in construction with poor lighting systems that always affect the low vision learners during teaching and learning process of reading skills”*.

For example the researcher was able to observe some learners learning under mango trees which could not support the use of some materials like print materials due to too much sun raise that always affect the visibility of the learners with low vision as well as their counterparts.

4.2.6 Findings on the Ways of Overcoming the Challenges Learners with Low Vision Face in Using Instructional Materials

The researcher wanted to find out the ways of overcoming the challenges learners with low vision face in using the low vision materials. Table 4.6 presents findings on the ways of overcoming the challenges learners with low vision face in using the low vision materials.

Table 4.6: Ways of Overcoming the Challenges Learners with Low Vision Face in Using Instructional Materials

Ways of Overcoming Challenges	Frequency	Percentage (%)
Providing special attention to the learners	25	69.4
Improvising the materials that can be easily used	29	80.5

Advocating for facilities that can support these learners	08	22.2
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Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

The study revealed that majority of the respondents 29(80.5%) considered improvising the materials that can be easily used to be the major way of overcoming the challenges learners with low vision face. In using the low vision materials, followed by 25(69.4%) who considered providing special attention to the learners and those who considered advocating for facilities that can support these learners constituted the least population 8(22.2%). The respondents also revealed that as much as they face challenges they also device means of trying to overcome the challenges and each respondent was able to provide more than two strategies that they use to overcome the challenges.

An inspector in charge of Special Needs Education, during an interview said that “*we always organize the annual training of teachers on the skills of dealing and handling learners with visual impairment facilitated by non-government organization called world vision in Kamwenge programs. The respondent also furthermore confirmed that they advocated for more organisations to support them and provide materials for the learners with low vision and they are still waiting*”.

One of the headteachers also said that “*we always advice our teachers to give more attention and extra time to the learners with disability so that they can move at the same level with their colleagues who are able bodied*”.

The observation results showed that some of the teachers surrender their print materials to help the learners with low vision understand the concept of reading during the literacy hour.

This was confirmed when the researcher observed one of the teachers in one school provide the learner who had low vision with her print material to read a statement in a text.

In focus group discussion with the selected children with low vision, majority revealed that some teachers give special attention to learners with low vision. This therefore helps the learners with low vision to move at the same rate with their counterparts.

4.3 Collaborative Learning and Attainment of Reading Skills by Learners with Low Vision

This objective found it necessary to find out the respondents view on collaborative learning as a classroom practice that is used to teach the learners with low vision reading skills. This was done because it could provide the researcher an insight into the effect of collaborative learning on the attainment of reading skills by the learners who use a specific material.

4.3.1 Response on Application of Collaborative Learning Practices to Teach Learners with Low Vision

The researcher aimed at finding out the respondents view on the use of collaborative learning as an approach of teaching learners with low vision readings in their classrooms. The responses from the respondents were summarized and presented in the Table 4.7.

Table 4.7: Application of Collaborative Learning Practices to Teach Learners with Low Vision Reading Skills

Response	Frequency	Percentage
Yes	44	84.6
No	08	15.4
Total	45	100

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.7 revealed that out of the 45 teachers, who were involved in the study, majority of them 44(84.6%) agreed that they apply collaborative learning practices to teach learners with low vision reading skills and those who did not apply collaborative learning practices constituted only 8(15.4%) of the respondents. The results imply that there are some teachers who ignore application of collaborative learning in teaching the learners with low vision attain reading skills and this was because of they didn't have enough time.

One of the headteachers during an interview said that *“some of our teachers fail to incorporate the collaborative learning approach in the classrooms because of the limited space and time allocated to particular learning areas”*. Majority of the key respondents were of the view that, most of the teachers who failed to incorporate collaborative learning practices was because of time factor and that they could only have it if they had extra time.

The researcher was also able to observe some learners being taught under trees which could not support collaborative learning practices and this probably was the reason they could not apply the approach in their classrooms.

4.3.2 Ways in Which Collaborative Learning is Applied in Classrooms

The researcher regarded it necessary to find out the teachers' opinions on how they always apply collaborative learning practices to teach learners with low vision reading skills. The responses from the respondents were recorded and summarized in the Table 4.8.

Table: 4.8: How Collaborative Learning Practices are Applied to Teach Learners with Low Vision Reading Skills

Application of Collaborative Learning Practices	Frequency	Percentage
Grouping learners together during reading lessons	30	68.2
Encouraging interactive talks	25	56.8
Close monitoring and assisting the learners	20	45.5
Providing learners with materials to assist them	18	40.9

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.8 revealed that 30(68.2%) of the respondents considered grouping learners together during reading lessons in a way that they apply collaborative learning practices and they constituted the highest population of the respondents, followed by 25(56.8%) who considered encouraging interactive talks, and only 18(40.9%) considered providing learners with materials to assist them. The study furthermore revealed that each teacher used more than one approach to conduct collaborative learning practices in their classroom environment. These results therefore majority of the schools usually group learners in their classroom to develop reading skills among their learners with low vision and this was because the approach was less costly and effective.

One of the head teachers during an interview said that *“most of our teachers apply different collaborative approaches in the classrooms such as interacting with learners with visual impairment and grouping the learners with low vision together with their peers. The respondent further confirmed that they always encourage their teachers to group learners with*

low vision together with their peers so as to enable them interact with each other and fasten their ability towards the development of the learning reading skills”.

The researcher was also able to observe learners in one of the schools grouped into groups of five containing learners with different learning abilities during a literacy lesson.

The researcher during focused group discussion with children with low vision found out from the children that the teachers of put them in groups of five, four and three during reading and that they were always mixed up in the different groups.

4.3.3 Challenges Faced in Implementing the Use of Collaborative Skills

The researcher endeavored to establish the challenges that the teachers face in implementing the use of collaborative learning practices in the classrooms to teach the learners with low vision.

The opinions of teachers are presented in the Table 4.9.

Table: 4.9: Challenges Faced in Implementing the Use of Collaborative Skills

Challenges faced	Frequency	Percentage
Negative attitudes from other learners	36	81.8
Lack of skills to use some materials by the learners	33	75.0
Limited time to deliver to the learners	28	63.6
Lack of communicative skills from other partners	19	43.2

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.9 revealed that majority 36(81.8%) of the respondents considered negative attitudes from other learners as the challenge they faced when implementing the use of collaborative skills to teach learners with low vision, followed by 33(75%) who considered lack of skills to use some

materials by the learners as the challenge faced and only 19(43.2%) considered lack of communicative skills from other partners as the challenge they faced. The results furthermore revealed that at least each of the respondents considered more than two challenges to be affecting their implementation of the collaborative learning practices.

One of the headteachers during the interview, said that *“most of the learners with low vision face segregation from their able peers even when put in groups. The respondent further confirmed that “these learners make it hard for the teachers to group learners as they fail to identify the able learners who will help these learners with low vision develop their reading skills.”*

Observation results showed that able learners mocked the learners with low vision when interacting. This was confirmed when the researcher saw one of the learners without low vision call the one with low vision the four eyed girl because she was wearing lens.

In a focused group discussion with children with low, the children revealed that most of them did not know how to use most of the materials for example the brail materials, some also said that the time given to them for reading was not enough.

4.3.4 Remedies to Overcome the Challenges Faced while Implementing Collaborative Skills

The researcher regarded it necessary to find out the remedies to the challenges faced by the teachers in implementing collaborative learning in classrooms with learners with low vision. The responses given were summarized in Table 4.10.

Table: 4.10: How to overcome the challenges faced while implementing collaborative skills

How to Overcome Challenges Faced	Frequency	Percentage
Encouraging learners to interact with their partners	37	84.1
Training the learners on how to use the materials	15	34.1
Requesting for more time on the timetable	10	22.7
Training the partners how to communicate with low vision	25	56.8

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.10 reveals that majority 37(84.1%) of the respondents considered encouraging learners to interact with their partners as the way to overcome the challenges faced when implementing the use of collaborative skills to teach learners with low vision, followed by 25(56.8%) who considered training the partners how to communicate with low vision, and only 10(22.7%) considered requesting for more time on the timetable as the way to overcome the challenges faced when implementing the use of collaborative skills. The results further reveal that each respondent gave more than two remedies that they use to overcome the challenges faced in implementing the collaborative learning practices.

One of the headteachers during an interview said that *“we have always advocated for the learners who have clear vision to interact with their counterparts with low vision and encouraged them to help their partners with low vision develop reading skills during the guidance and counseling”*.

The researcher was also able to observe one of the learners with normal vision, guide the colleague with low vision while reading during literacy hour in the observation session.

In a focus group discussion with the children with low vision, some of the children confirmed that some teachers give them addition time for reading if they had not completed.

4.4 Inclusive Classroom Environment and Attainment of Reading Skills by Learners with Low Vision

This objective sought to find out the relationship between an inclusive classroom environment and attainment of reading skills by learners with low vision. Several questions were drawn to give an insight into the issue of inclusive classroom environment and how it enables the learners to attain reading skills. The results of the findings were as presented below;

4.4.1 Response on classroom environment and attainment of reading skills

The respondents were asked whether they have a classroom environment that supports attainment of reading skills by the learners with low vision and their responses were as summarized in the table below;

Table 4.11: Teacher's Response Rate on the Classroom Environment and Attainment of Reading Skills

Response	Frequency	Percentage
Yes (for supportive environment)	34	65.4
No (for supportive environment)	18	34.6
Total	52	100

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

The respondents were asked whether they had a classroom environment that supported children with low vision to attain reading skills or not. Table 4.11 showed that out of the 45 teachers who were involved in the study, 34(65.4%) of them considered having classroom environments that supported learners with low vision to attain of reading skills, they constituted the highest population of the respondents. Only 18(34.6%) of the respondents disagreed about having classroom environment that supports attainment of reading skills by learners with low vision.

An inspector of schools in charge of Special Needs Education during an interview, said that *“very few schools in the area have classroom environment that can support attainment of reading skills by learners with low vision. The respondent further added “some of the teachers and learners in the school have negative attitudes towards learners with disabilities not ignoring those with low vision which makes most of them fail to stay in school”*. This therefore confirms that however much government is putting concerted efforts to improve on inclusive classroom practices much attention has not be taken into consideration by a number schools in Kamwenge to improve the reading skills of learners with low vision.

Furthermore the researcher during observation time was able to observe a few classrooms in some schools having the classroom environment that supported attainment of reading skills by the learners with low vision. This was because the classrooms had materials, fair lighting system that supported this group of learners to attain the reading skills.

The researcher during the focused group discussion with some of the children with low vision found out that in some schools the children were studying in temporary buildings with a few seats and this was not favourable for the children to develop reading skills.

4.4.2 Outcome of Classroom Environment on Attainment of Reading Skills

This question intended to find out ways in which these classrooms enable these learners to attain reading skills and the opinions of the respondents were as presented in the table below;

Table 4.12: How the Classrooms Environment Enables Learners Attain Reading Skills

Opinions	Frequency	Percentage
Seating arrangement	9	26.5
Rooms with materials displayed	18	52.9
Proper lighting system	8	23.5
Positive attitudes towards learners with low vision	12	35.3

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.12 reveals that out of the 34 respondents who agreed that they have classroom environment that support reading skills of learners with low vision, 18 (52.9%) of them considered the rooms reading materials used by the learners and this helps them to attain reading skills and only 8 (23.5%) of the respondents considered having proper lighting system that help the learners attain reading skills. The findings imply that each respondent gave more two factors that make their classroom environment favorable for the learners with low vision. The results therefore imply that learners with low vision face a challenge of accessing favorable classrooms environment because most of the classrooms are not able to meet the needs of a particular group of learners with low vision for example some require dim light while others require bright light.

One of the head teachers during an interview, said that *“we have very few rooms around the school that could be accessed by the learners with low vision because of the challenges of*

lighting and contrast. We have also tried to provide several materials in the classrooms to make the environment conducive for the learners with low vision”.

The researcher during the observation session for lessons was able to observe audial books and print materials in the shelves in one of the classrooms that had learners with low vision.

4.4.3 Influence of Classroom Environment on Attainment of Reading Skills

This question was asked in order to provide an insight on how classroom environment influences the learners with low vision to attain reading skills.

Table 4.13: Influence of Classroom Environment on Attainment of Reading Skills

Influence of classroom environment	Frequency	Percentage
Gain knowledge and reading skills	31	91.2
Create room for improved performance	25	55.6
Provide chance to improve on other subjects	26	57.8

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.13 shows that majority of the respondents 31(91.2%) considered classroom environment to be enabling learners to gain knowledge and reading skills, followed by 26(76.5%) who considered providing chance to improve on other subjects and only 25(73.5%) considered creating room for improved performance. These results reveal that at least each respondent gave more than two responses on the influence of classroom environment on the attainment of reading skills by learners with low vision. This probably implies that a classroom environment that supports learners with low vision positively impacts on their reading skills.

One of the head teachers during the interview, said that “*majority of the learners with low vision who studied in the classroom environment that supported their learning had gained better reading skills such as fluency, sentence construction and vocabulary*”. Most of the head teachers were of the view that learners who are in supportive classroom environment were able to construct good sentences and read different articles fluently as they had observed them during support supervision.

Using an observation checklist, the researcher during the observation session of lessons was able to observe some learners with low vision read fluently and constructing proper sentences with good vocabulary when using the prints materials to read during the literacy hour.

4.4.4 Challenges Faced in Creating an Inclusive Classroom Environment

This researcher endeavored to establish the challenges faced in creating an environment that enable the learners with low vision attain the reading skills and their responses were as presented in Table 4.14.

Table 4.14: Challenges Faced in Creating an Inclusive Environment

Challenges	Frequency	Percentage
Limited space	23	67.6
Limited finance	17	50.0
Negative attitudes towards learners with low vision by the peers	21	61.8
Inaccessibility of some buildings by the learners with low vision	26	76.5

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.14 shows that majority of the respondents 26(76.5%) who were engaged in the study considered inaccessibility of some buildings around the schools to be the greatest challenge they

faced while trying to create a classroom environment that supports attainment of reading skills by the learners with low vision, followed by 23(67.6%) who considered limited space in the classrooms and only 17(50%) considered limited finance. The study furthermore revealed that there were also respondents who considered negative attitudes by the peers towards learners with low vision and they constituted 21(61.8%). The results also revealed that at least every respondent considered more than one challenged was faced in creating a classroom environment for all. This therefore implies that inclusive classroom environment creates a great challenge to learners with low vision and this probably affects their reading skills.

One of the head teachers during an interview in one of the schools, said that “*most of the buildings in our school are historical buildings that were built without considering the needs of learners with low vision.* Most the head teachers were of a view that some of the learners are discriminated by some of their peers which makes the classroom environment fail to support the learners with low vision as they always tend to feel discriminated and end up dropping out of schools”.

The researcher while using the observation checklist was able to observe some classrooms with few materials like the print materials, lens and braille that support development of reading skills by the learners with low vision and this could probably explain the challenges in creating an inclusive classroom environment.

The researcher also during the focused group discussion asked the learners how many of them share a seat and majority of them said 5 children seat on one desk. This revealed that the children were squeezed in the classroom which also doesn't create a favourable environment for developing reading skills.

4.4.5 Remedies to Challenges Faced in Creating an Inclusive Classroom Environment

The researcher regarded it necessary, to find out the remedies that the teachers employ to solve the challenges that they face in creating an inclusive classroom environment to cater for the learners with low vision and enable attain the reading skills and their opinions were summarized in the table 4.15.

Table 4.15: Responses on the Remedies to the Challenges Faced in Creating an Inclusive Classroom Environment

Remedies	Frequency	Percentage
Improvise the materials in classrooms to support the learners	15	44.1
Encouraging the peers to change their attitudes towards these learners	19	55.9
Provision of assistive devices to learners with low vision	24	70.6
Requesting for donations to support these category of learners	10	29.4

Source: Survey Data for a Study Conducted in Ten UPE Schools in Kamwenge, 2019

Table 4.15 shows that out of the entire population of the teachers that were involved in the study, majority 24(70.6%) considered provision of assistive devices to learners with low vision as a major solution to the challenges and 10(29.4%) considered requesting donations to support these kind of learners. The study further revealed that there were also respondents who considered improvising materials to enable the learners attain reading skills. The results also show that more than two solutions were considered by every individual respondent who part of your study.

One of the head teachers in the schools during an interview, said that *“we face several challenges in trying to create an environment that supports the development of reading skills*

among the learners with low vision such as high costs of the materials, some teachers and learners also do not have skills of using these materials. The respondent further said that “they always advocate for different organizations to support them provide the materials for the low vision learners and also train the teachers to improvise for their learners”.

Observation results by the researcher showed that teachers always counsel the learners with visibility to accept their counterparts with low vision during lessons.

The results from a focused group discussion with the selected children with low vision revealed that some of the children confirmed that their teachers would provide them some devices to use in the classroom during the reading lessons and that some children also carried their seats from home to use in classrooms.

Table 4.16: Correlation between inclusive Classroom Practices and Reading Scores

		Reading scores	Instruction materials	Collaborative learning	Classroom environment
Reading scores	Pearson Correlation	1.000	.335(**)	.281(**)	-.295(**)
	Sig. (2-tailed)	.	.009	.032	.037
	N	76	76	76	76
Instruction materials	Pearson Correlation	.335(**)	1.000	.56	.006
	Sig. (2-tailed)	.009	.	.220	.946
	N	76	76	76	76
Collaborative learning	Pearson Correlation	.281(**)	.56	1.000	.139
	Sig. (2-tailed)	.032	.220	.	.139
	N	76	76	76	76
Classroom environment	Pearson Correlation	-.295(**)	.006	.139	1.000
	Sig. (2-tailed)	.037	.946	.139	.
	N	76	76	76	76

** Correlation is significant at the 0.05 level (2-tailed).

Table 4.16 shows that all the variables instructional materials, collaborative learning and classroom environment have a significant correlation at 5% level of significance.

The results show a significant weak positive correlation between instructional materials and reading scores ($cc = 0.335$, $p\text{-value} = 0.09$). This means that an increase in the use instructional materials leads to 33.5% increases in the reading scores of learners with low vision.

The results also show a significant weak positive correlation between collaborative learning and reading scores ($cc = 0.281$, $p\text{-value} 0.032$). This means that an increase in the use of collaborative learning leads to 28% increases in the reading scores of learners with low vision.

The results further show a significant weak negative correlation between the classroom environment and reading scores ($cc = -0.295$, $p\text{-value} 0.37$). This means that although instructional materials have been provided in classrooms the children with low vision still fail to attain the reading skills. This is indicated by a 29.5% decline in the reading scores of learners with low vision. This is because the instructional materials provided in the classrooms are compatible for learners with low vision.

CHAPTER FIVE

DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the study's findings in relation to its main goals. The findings are interpreted, and it is made clear why they are pertinent to the research in light of findings from other studies conducted by various researchers. The results of this study are based on the interpretation and analysis of information gathered through the use of a questionnaire and interviews with respondents. The chapter also includes the conclusions drawn from the conversation and the recommendations that followed. The chapter concludes with a list of specific areas that are suggested for further study.

5.2 Discussion of Results

This section presents the discussion of findings as derived from the study, basing on each objective.

5.2.1 Instructional Materials and Attainment of Reading Skills by Learners with Low Vision

The results from this objective show that out of the 52 respondents 67.3 percent revealed that prints was the major material used to teach reading skills to pupils with low vision, followed by 50 percent who said that lens were also used, and the least 19.2 percent revealed that braille and tactile materials were the least materials used respectively.

This result was in line with that of numerous researchers, Taghinezhad & Khalifah (2015), who discovered that audio books were useful resources to improve the education of

students with limited eyesight. In order to be prepared to educate children with low vision in the manner in which they can learn and acquire reading skills and other learning areas in an inclusive classroom, teachers should organize for ongoing professional development. Fountas & Pinnell (2018) also noted that a subset of young children who have normal vision but have trouble reading print effectively and continuously is included in the category of learners with low vision. For people with visual impairments, braille has served as more than just a literacy (reading) tool (Spungin, 2012). According to Spungin, the Braille appears to be a symbol of skill and excellence for some people.

Additionally, the results showed a substantial positive link between instructional materials and attainment of reading skills. This therefore implies that instructional materials helped to improve on the learners' performance in literacy and other subjects. These materials also improved on the learners' reading proficiency and this was consistent with that of scholars such as Richardson & Mishra (2018) who discovered that educational materials are things that can be used to improve the effectiveness of learning new information and skills.

The study further revealed that, challenges mostly faced in incorporating the reading materials in classrooms were the cost of materials that constituted 80.5 percent and limited skills in using the materials by both teachers and learners with low vision that constituted 69.4 percent. These challenges greatly contribute to the failure in incorporating reading materials in the classrooms. These outcomes were consistent with several academics' findings. According to Winter (2005), Franck and Joshi (2017), Mphongoshe et al. (2015), the difficulties employing instructional materials were due to a lack of services for early identification, inadequately prepared teachers, and an insufficient distribution of resources. He added that the absence of accessible structures is viewed as a societal prejudice that can thwart the successful deployment

of interactive techniques in classrooms. A separate researcher, Thomazet (2009), stated that the ability of the school and the teachers to innovate and implement differentiation is necessary for truly inclusive education. These standards are typically enforced in schools, where students are grouped or assisted in accordance with their disabilities.

5.2.2 Collaborative Learning and Attainment of Reading Skills by Learners with Low Vision

The researcher sought to find out the relationship between collaborative learning approaches used to attain the reading skills and the findings revealed that majority of the respondents 68.2 percent confirmed that they use grouping approach to teach the learners reading skills, followed by those who said encouraging interactions between different learners that constituted 56.8 percent and the findings were not in line with that of several scholars (Nguyen, 2008; Pham, 2010) who discovered that in Vietnam, a few studies revealed that Vietnamese teachers and students prefer implementing collaborative activities in the classroom (Student Teams Achievement Divisions, Group Investigation, Jigsaw, Think-Pair-Share, Role play, Question and Answer) since taking part in these activities enhances students' collaborative skills. This study supported the findings of García-Carrión et al. (2018) and Lamichhane (2017), who discovered that inclusive school practices foster a collaborative and respectful school culture in which students with disabilities are assumed to be competent and actively participate as members of the school community.

Most of the respondents that is 81.8 percent considered negative attitudes from other learners as the challenge they faced when implementing the use of collaborative skills to teach learners with low vision. They constituted the highest population of the respondents, followed by 75 percent who considered lack of skills to use some materials by the learners as the challenge

faced and only 43.2 percent considered lack of communicative skills from other partners as the challenge they faced. The challenge that was mostly faced in implementing collaborative learning was negative attitudes towards the learners with low vision. This study supported Vygotsky's (1934) theory that social learning, which is proven by working in a group, is the basis for cognitive development. Children with normal vision who attend Inclusive can improve the social atmosphere for kids with low vision if they have a pleasant attitude. This makes a significant contribution to the collaborative, social constructivist style of learning. Similar to this, teachers face difficulties when planning collaborative activities, including creating groups, designing appropriate group tasks, managing class time, and fostering and overseeing fruitful collaboration (Hämäläinen and Vähäsantanen, 2011; Lane, 2016).

The study also revealed that there was a significant positive relationship between collaborative learning and attainment of reading skills. This made the learners with low vision more competent and this study was consistent with the findings of (Lamichhane, 2017), who discovered that inclusive school practices foster a collaborative and respectful school culture in which students with disabilities are assumed to be competent, form positive social connections with peers, and fully participate in school life.

The results from focused group discussions also showed that children were grouped during the reading lessons in class and this supported learners with low vision to attain reading skills.

5.2.3 Inclusive Classroom Environment and Attainment of Reading Skills by Learners with Low Vision

The study sought to find out the ways in which the classroom environment helps the learners with low vision attain reading skills. The results reveal that 52.9 percent of them considered the

rooms reading materials used by the learners and this helps them to attain reading skills, followed by 35.3 percent of respondents who considered positive attitudes towards learners with low vision and only 23.5 percent of the respondents considered having proper lighting system that help the learners attain reading skills. The study also reveals that there some respondents who considered seating arrangement in the classroom environment and they constituted 26.5 percent of the respondents. The results supported Adderley et al. (2015) contention that preferential seating is one of the most widely used strategies for students with special needs. This does not necessarily imply that you should sit in the first row of the class, next to the teacher's desk. There are numerous situations in which sitting a kid in front can go horribly wrong. Teaching low vision youngsters demands a big heart and a great ability to focus and express one's needs.

The results also revealed that 76.5 percent who were engaged in the study considered inaccessibility of some buildings around the schools to be the greatest challenge they faced while trying to create a classroom environment that supports attainment of reading skills by the learners with low vision, followed by 67.6 percent who considered limited space in the classrooms and only 50 percent considered limited finance. This research supports the findings of Bailey et al. (2015), Gyimah et al. (2009), Ocloo and Subbey (2008), who discovered that in the United States, Asia, and Africa, teachers' attitudes toward inclusive education appear to be influenced by the severity of the disability and the absence of facilities to support inclusion.

The study further revealed that there was a negative significant relationship between classroom environment and attainment of reading skills. This implied that when children with low vision study in classroom environment that do not support their learning, they score poorly in reading. These findings were consistent with those of Asamoah et al. (2018), who suggested

that putting visually impaired children in inclusive classrooms gives them the chance to socialize, get to know one another, and share worries and experiences with sighted kids who are understanding and helpful to them. He added that students with impaired vision can encourage rivalry with their classmates if they are given access to adapted resources like Braille books and are skilled in using the technology they have been given.

The focused group discussion results also revealed that to make the classroom environment supportive children with low vision, teachers provided them with assistive materials during reading lessons.

5.3 Conclusions of the Findings

Based on the discussions of the findings above the author would therefore make the following conclusions in line with the objectives;

5.3.1 Instructional Materials and Attainment of Reading Skills by Learners with Low Vision

The study confirmed that print materials are the most commonly used instructional materials in primary schools to teach learners with low vision reading skills. Despite other instructional materials being used such braille, tactile materials and lenses among others print materials were more accessible than other materials and thus being the common instructional materials in many of the classrooms in primary schools in Kamwenge District. Most of the learners with low vision in primary three used these materials to attain reading skills.

The study based on finding revealed there is a significant relationship between instructional materials and attainment of reading skills by learners with low vision. Therefore the

researcher concludes that application of instructional materials during readings enables learners with low vision to attain reading skills.

It has been made clear that although instructional materials are made available in classrooms, the quality of some reading materials do not facilitate attainment of reading skills by learners with low vision. For example the learners with low vision faced challenges with the font size of print materials which made it difficult for the learners with low vision to attain reading skills.

It has been confirmed that teachers face several challenges in incorporating the use of reading materials in inclusive classrooms. This therefore makes it hard for the learners with low vision to be taught reading skills. The challenges were as a result of have some materials that the teacher could not use and needed to be trained on how to use them such as braille materials, tactile materials and lenses. It was noticed that most teachers could not apply them in classrooms because of the complexity in using them.

5.3.2 Collaborative Learning and Attainment of Reading Skills by Learners with Low Vision

It is now clear that grouping learners in inclusive classrooms is the most used collaborative learning techniques used to teach learners with low vision reading skills in most Primary three classes in Kamwenge district. The learners with low vision are grouped with their counterparts so as to assist them during reading sessions.

It has been confirmed that learners with low vision face the challenge of segregation from their counterparts because most of them don't want to share materials with those who cannot see well. This greatly affects their attainment of reading skills since they become inferior and

develop fear of engage in reading classes. This therefore results to the drop out of learners with low vision from the schools.

In general it has been established that there is a positive relationship between collaborative and attainment of reading skills among learners with low vision. This means that the use of collaborative learning improves on the attainment of reading skills by learners with low vision.

5.33 Classroom Environment and Attainment of Reading Skills Among Learners with Low Vision

It is no longer in dispute that most of the classrooms in which learners with low vision were taught in had instructional materials and therefore guiding the process of attaining reading skills among learners with low vision. The classroom environment arrangements in most schools were designed to enhance the attainment of reading skills.

It has been established that despite the provision of reading materials in the classrooms, the learners with low vision still failed to attainment readings skills which depicted by the decline in the reading scores of learners with low vision.

5.4 Recommendations of the Study

Based on the conclusions drawn from the findings, the researcher would therefore like to recommend the following;

The Ministry of Education through its policy for Education for All (EFA) should ensure that print materials distributed in the schools are compatible to all learners and must be able to support development of reading skills among learners with low vision.

The Ministry of Education and Sports together with the school administration should ensure that the teachers deployed in the schools are well-trained and equipped to implement the Education for All policy. This requires the teachers to have the knowledge and skills for developing teaching materials that cater for learners with their different abilities.

The Ministry of Education and Sports through Parliament of Uganda need to increase funding for provision of inclusive teaching materials secured for learners with low vision. This will help to enhance the development of reading skills among learners with low vision in primary schools in Kamwenge District and the country at large.

The school administration should ensure that all classrooms are well-equipped with teaching materials that enhance the development of reading skills among learners with low vision. They furthermore need to ensure that the classroom environment is safe for the learners with low vision.

The teachers should ensure that they provide a safe learning environment that promotes the development of reading skills. The learners should be able to feel physically, emotionally and socially comfortable in the reading environment. The safe environment needs to have reading materials that are compatible for the learners with low vision.

The learners with low vision need to draw the attention of their teacher towards their health issues by providing them with medical examination forms that provide details about their visual impairment.

5.5 Recommendations for Further Studies

The research was restricted to inclusive classroom practices and the development of reading skills among learners with low vision; however further research could also be carried out in the following areas;

Inclusive education and performance of learners with disabilities in Ugandan primary schools.

Classroom management practices and inclusive infant classes in Ugandan schools.

Involvement of parents in the strategies for improving reading competencies of learners with low vision.

Establishing attitudes of infant children without disabilities to Special Needs Children as a strategy to improve Special Needs Learning.

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR TEACHERS

Dear colleague in profession,

I am a student at Kyambogo University undertaking studies leading to the award of Master Degree in Education Early Childhood Development. I am currently conducting a research study in partial fulfillment of the requirements for this award. This is to request you to complete this form which is being used to investigate in an inclusive classroom practices and attainment of reading skills for learners with low vision in primary three class in Kamwenge District. The information you will provide will be treated with confidentiality and will be used only for research purposes. Your own personal identity by name is not required. Your assistance will be highly appreciated.

Section A: Teaching Materials and Attainment of Reading Skills by Learners with Low Vision

1. What low vision teaching materials do you use to teach reading skills to learners with low vision
 - a) Braille ☐
 - b) Prints ☐
 - c) Tactile materials ☐
 - d) Lens ☐
2. How do the teaching materials you use impact on the reading skills of learners with low vision?
 - a) Improves on the reading skills ☐
 - b) Improves on the performance in other subjects in class ☐
 - c) Develops their writing skills ☐
3. Do the learners with low vision face challenges in using the above materials?
 - a) Yes ☐
 - b) No ☐

4. If yes, what challenges do they face in using the materials?

5. What challenges do you as teachers face in incorporating the use of teaching materials into the classrooms?

- a) Limited skilled teachers ☐
- b) Inadequate finance to access the resources ☐
- c) Inaccessible facilities by the learners ☐
- d) Lack of skills to identify the students ☐

6. How do you help the learners overcome the challenges they face while using the low vision materials?

- a) Providing special attention to the learners ☐
- b) Improvising the materials that can be easily used ☐
- c) Advocating for facilities that can support these learners ☐

Section B: Collaborative Learning and Attainment of Reading Skills by Learners with Low Vision

7. Do you in anyway apply collaborative learning practices to teach your learners with low vision reading skills.

- a) Yes ☐
- b) No ☐

8. If yes, how do you apply the collaborative learning to ensure that your learners with low vision attain the reading skills?

- a) Grouping learners together during reading lessons ☐
- b) Encouraging interactive talks ☐
- c) Close monitoring and assisting the learners ☐
- d) Providing learners with materials to assist them ☐

9. What challenges do you face in implementing the use of collaborative skills in classrooms for learners with low vision?

- a) Negative attitudes from other learners ☐
- b) Lack of skills to use some materials by the learners ☐
- c) Limited time to deliver to the learners ☐
- d) Lack of communicative skills from other partners ☐

10. How do you overcome the above challenges while implementing this classroom practice?

- a) Encouraging learners to interact with their partners ☐
- b) Training the learners on how to use the materials ☐
- c) Requesting for more time on the timetable ☐
- d) Training the partners how to communicate with low vision ☐

Section c: Inclusive Learning Classroom Environment and Attainment of Reading Skills by Learners with Low Vision

11. Do you have a classroom environment that supports attainment of reading skills by learners with low vision

- a) Yes ☐
- b) No ☐

12. If yes, how does your classroom environment help the learners with low vision attain the reading skills?

- a) Seating arrangement ☐
- b) Rooms with materials displayed ☐
- c) Proper lighting system ☐
- d) Positive attitudes towards learners with low vision ☐

13. How does the classroom environment influence the attainment of reading skills by learners with low vision?

- a) Gain knowledge and reading skills ☐
- b) Create room for improved performance ☐

- c) Provide chance to improve on other subjects ☐
14. What challenges do you face in creating a classroom environment that allows the learners with low vision to attain the reading skills?
- a) Limited space ☐
- b) Limited finance ☐
- c) Negative attitudes towards learners with low vision by the peers ☐
- d) Inaccessibility of some builders by the learners with low vision ☐
15. How do you overcome the above challenges so as to create an inclusive classroom environment?
- a) Improvise the materials in classrooms to support the learners ☐
- b) Encouraging the peers to change their attitudes towards these learners ☐
- c) Provision of assistive devices to learners with low vision ☐
- d) Requesting for donations to support these category of learners ☐

Thank you for your cooperation

APPENDIX II: INTERVIEW GUIDE FOR HEAD TEACHERS

Interview schedule for Head Teacher of Inclusive Schools

Dear colleague in profession,

I am a student at Kyambogo University undertaking studies leading to the award of Master Degree in Education Early Childhood Development. I am currently conducting a research study in partial fulfilment of the requirements for this award. This is to request you to complete this form which is being used to investigate in an inclusive classroom practices and attainment of reading skills for learners with low vision in primary three class in Kamwenge District. The information you will provide will be treated with confidentiality and will be used only for research purposes. Your own personal identity by name is not required. Your assistance will be highly appreciated.

1. What low vision teaching materials do you use to teach reading skills to learners with low vision?
2. How do the teaching materials you use impact on the reading skills of learners with low vision?
3. What challenges do you as teachers face in incorporating the use of teaching materials into the classrooms?
4. How do you help the learners overcome the challenges they face while using the low vision materials?
5. Do you in anyway apply collaborative learning practices to teach your learners with low vision reading skills?
6. What challenges do you face in implementing the use of collaborative skills in classrooms for learners with low vision?
7. How do you overcome the above challenges while implementing this classroom practice?
8. Do you have a classroom environment that supports attainment of reading skills by learners with low vision
9. How does the classroom environment influence the attainment of reading skills by learners with low vision?

10. What challenges do you face in creating a classroom environment that allows the learners with low vision to attain the reading skills?
11. How do you overcome the above challenges so as to create an inclusive classroom environment?

APPENDIX III: OBSERVATION CHECKLIST

1. Instructional teaching materials used to teach children with low vision
2. Collaborative learning practices used to being applied in classrooms with children with low vision.
3. Classroom environment set up where children with low vision learn.
4. Other inclusive teaching practices being used to teach children with low vision.

APPENDIX III: FOCUS GROUP DISCUSSION GUIDE FOR CHILDREN WITH LOW VISION

1. Do you like reading lessons?
2. What makes you like reading lessons?
3. Which reading materials to your teachers use?
4. Are the reading materials available in your classroom enough for you or you share?
5. If you share how many of you share one book?
6. When they mix you, do they mix you with your peers?
7. Do you get help from your peers?
8. What challenges do you face during reading lessons?
9. Are you congested in the classroom?
10. What is your sitting position in class, front, middle or behind?
11. Do you have light in your classroom?

APPENDIX III: INTERVIEW GUIDE FOR INSPECTORS OF SCHOOLS

Dear colleague in profession,

I am a student at Kyambogo University undertaking studies leading to the award of Master Degree in Education Early Childhood Development. I am currently conducting a research study in partial fulfillment of the requirements for this award. This is to request you to complete this form which is being used to investigate in an inclusive classroom practices and attainment of reading skills for learners with low vision in primary three class in Kamwenge District. The information you will provide will be treated with confidentiality and will be used only for research purposes. Your own personal identity by name is not required. Your assistance will be highly appreciated.

1. How long have you been an inspector of schools?
2. How many UPE schools have enrolled learners with low vision?
3. For how long have the learners with low vision been enrolled in UPE schools?
4. What considerations does the district have for providing specialized teachers in these schools?
5. What materials or financial support does the district local government Education Office provide these schools?
6. What is your view on educating learners with low vision in integrated UPE settings among sighted learners as contrasted to special school settings?
7. Suggest strategies that can enhance access to quality Basic Education for learners with low vision in un-resourced UPE schools.