RETENTION OF LEARNERS WITH VISUAL IMPAIRMENT TO COMPLETION OF PRIMARY CYCLE

A CASE OF ONE PRIMARY SCHOOL IN KABALE MUNICIPALITY

BY

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DECLARATION

I, **AHUMUZA CHARITY,** hereby declare that this research dissertation is from my own effort and has never been submitted to any academic institution for an academic award.

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APPROVAL

This dissertation titled "impact of physical environment on the retention of learners with visual impairment in primary schools: A case study of Hornby High School in Kabale district" has been submitted with my consent and approval and is ready for submission to the Directorate of Graduate Studies and Training.

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DEDICATION

I dedicate this dissertation to my beloved children; Ahumuriza Jordan, Ashemeza Joanna and Kushemererwa Hossanna.

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LIST OF ABBREVIATIONS

MOES	Ministry of Education and Sports
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization.
UPE	Universal Primary Education
GOU	Government of Uganda
UNCRPD	United Nations Convention on Rights of Persons with Disabilities
LVI	Learners with Visual impairment
GPE	Global partnership in education
CWVI	Children with visual impairment
JAWS	Job Access with Sound
CCTV	Closed Circuit Television
SNE	Special Needs Education
P.	Primary
(J)	Junior

ABSTRACT

This study focused on investigating the factors affecting the retention of children with visual impairments at Hornby High School in Kabale district. The study aimed at identifying the school physical environmental barriers that hinder retention of learners, investigate school-based factors influencing retention, and explore potential measures to overcome obstacles leading to low retention. The study was guided by the social model of disability which views disability as the result of societal barriers, discrimination, and prejudice rather than an individual's impairment. Developed by Mike Oliver in the late 20th century, it emphasizes the need to address systemic obstacles and promote inclusion and equality for people with disabilities.

A sample of 13 participants, including learners with visual impairments in and out of school, teachers, and the head teacher, was selected through purposive and convenience sampling methods. Data collection involved interviews, document analysis and observations. Thematic presentation was used to organize and present the coded data. Credibility and authenticity of the data, methods, and findings was achieved through rigorous adherence to ethical guidelines, utilizing validated research instruments, employing appropriate sampling techniques, and ensuring transparency in reporting the results. The study revealed that the learning environment at the primary school under examination is not conducive for learners with visual impairments. These learners face substantial school-based obstacles that hinder their retention compared to their non-visually impaired counterparts. The school lacks the necessary means to provide specialized support for pupils with visual impairments, leading to unmet educational needs. The study recommended increased investment in accessible infrastructure, assistive technologies, and collaborative partnerships to support these learners.

CHAPTER ONE
INTRODUCTION

1.0 Introduction

The context of the study, the research problem, the aims, scope, and significance of the study are all introduced in this chapter along with the essential ideas. In addition, the exposition of the study scope, definition of terms and theoretical framework is also done.

1.1 Background to the Study

The retention of learners with visual impairment to the completion of the primary cycle in primary schools is a global concern, as these learners often face unique challenges that significantly impact their educational journey. According to the World Health Organization (WHO, 2021), an estimated 19 million children worldwide are visually impaired, and ensuring their retention in primary schools is vital to achieving inclusive and equitable quality education, as underscored by the United Nations Sustainable Development Goal 4 (UNESCO, 2015). Globally, effective retention strategies for learners with visual impairment encompass not only accessible and adapted curricula but also comprehensive teacher training, the use of assistive technologies, and strong parental involvement in the educational process (Allsop et al., 2019; American Foundation for the Blind [AFB], 2020).

Retention of learners with visual impairments presents particularly complex challenges in Africa, where socio-economic disparities, inadequate infrastructure, limited access to specialized resources, and cultural biases exacerbate the situation (Mlambo & Mji, 2017; Warrington, 2019). For instance, in countries like South Africa, the retention rate of visually impaired learners is closely tied to systemic issues such as lack of Braille materials, assistive technologies, and the shortage of specialized teachers (Mubvuma et al., 2018; Aderemi et al., 2020). This situation reflects similar trends across the African continent, where low retention rates among learners with visual impairment are further compounded by prevailing misconceptions about the capabilities of these learners and inadequate inclusive educational policies.

In East Africa, the retention of learners with visual impairment to the completion of the primary cycle is an especially critical educational issue. Countries in the region, including Uganda, experience high dropout rates among visually impaired pupils, due to limited access to specialized resources, insufficient teacher training, and societal misconceptions about

visual impairment (Waweru & Njoroge, 2017; Kioko et al., 2019). The scarcity of inclusive educational policies and facilities, coupled with the socio-economic challenges faced by families of children with visual impairments, further exacerbates these issues (Mushi & John, 2018; Kuyini & Desai, 2020). As such, despite efforts to promote inclusive education, the retention of learners with visual impairments in East Africa remains a significant challenge.

In Uganda, ensuring the retention of learners with visual impairments to the completion of the primary cycle in primary schools has long been a focal point within the framework of inclusive education. The Ugandan government, guided by international agreements such as the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), has made strides to improve accessibility and support for children with visual impairments in mainstream schools (Ministry of Education and Sports, 2007). However, challenges such as insufficient specialized teacher training, lack of appropriate teaching materials, and societal stigma continue to hinder progress (United Nations, 2020). Ndagire and Nsengiyumva (2019) emphasize the importance of comprehensive policy implementation, continuous teacher professional development, and collaboration between schools, families, and community stakeholders to improve the retention and educational experience of learners with visual impairments in Ugandan primary schools.

Kabale District, located in southwestern Uganda, exemplifies the challenges faced by learners with visual impairments in accessing and completing primary education. Limited resources and infrastructure for inclusive education (UNESCO, 2019), along with societal misconceptions about the capabilities of individuals with disabilities, exacerbate the difficulties faced by these learners. According to the World Health Organization (WHO, 2020), about 19 million children globally live with visual impairments, and inadequate support can severely hinder their educational progression. In Kabale, as in many other parts of Uganda, these issues are further compounded by low parental involvement and societal beliefs that undervalue the education of children with disabilities. This leads to reduced support from parents, which often results in learners being kept out of school or removed before completing the primary cycle (WHO/UNICEF, 2015).

A review of enrolment records and registers at Hornby High School Junior in Kabale District revealed a concerning pattern: over the past decade, only one-third of children with visual impairments who enrolled in the primary cycle were able to complete it. This alarming statistic suggests that the physical environment at Hornby High School Junior may present

significant barriers to the retention of learners with visual impairments. Issues such as inaccessible classrooms, hallways, and facilities, as well as a lack of assistive technologies and adaptive learning tools, may contribute to the low retention rates observed. This underscores the importance of identifying and addressing the specific barriers that these learners face in their educational journey.

By drawing comparisons to similar challenges faced by learners with visual impairments in countries such as South Africa and Tanzania, we can better understand the global context of retention issues and the need for targeted interventions. These interventions must include the provision of specialized environment that facilitates learning. Environmental factors that facilitate learner retention include the physical learning space, access to technological tools, peer collaboration, supportive teacher-student relationships, and a positive emotional climate. A well-designed classroom, with appropriate lighting, temperature, and accessibility, enhances student engagement, which is critical for retention. Technological tools allow interactive and dynamic learning experiences, while peer interactions promote deeper cognitive processing. Supportive teacher-student relationships foster confidence and engagement, and a psychologically safe environment helps students focus better. Together, these factors create an environment that promotes sustained attention and improved retention of material Addressing these issues in Kabale District can enhance retention rates and create more inclusive learning environments for all students, including those with visual impairments.

1.2 Statement of the Problem

Ensuring the retention of learners with visual impairments is crucial for poverty alleviation and sustainable development. The impact of keeping these learners at home, and deprived of their education rights not only affects them directly but also places additional burdens on family members who may be unable to work due to caregiving responsibilities. Moreover, despite the growing emphasis on inclusive education in Uganda, many schools, including Hornby High School in Kabale District, still struggle to provide an educational environment conducive to the needs of learners with visual impairments. As noted in some studies this remains major among the critical factor influencing the retention of these learners is the physical environment of the school, because it can either enhance or hinder their academic success and overall participation (Mbabazi, 2020).

The above observations are made with a clear understanding that learners with visual impairments require specific accommodations in the physical environment, including tactile paths, proper lighting, braille materials, and accessible classroom layouts to enable them to engage fully in their studies. Unfortunately, many schools, especially in rural areas like Kabale, lack the necessary infrastructure and resources to accommodate such needs (Kaggwa & Lwanga, 2019). This inadequacy in the physical environment often results in barriers to learning, reduced participation, and eventually, higher dropout rates among learners with visual impairments (Sebunya, 2018).

In the case of Hornby High School specifically, there are notable concerns about the accessibility and suitability of the physical environment for learners with visual impairments. There is observable inadequate lighting, absence of tactile markers for navigation, poorly designed classrooms, and a lack of specialized learning materials. Such challenges not only impact the academic performance of learners with visual impairments but may also affect their overall sense of inclusion and belonging within the school community (Mbabazi, 2020; Adkins, 2019).

This study therefore explored how the physical environment of Hornby High School influences the retention of learners with visual impairments. The study specifically explored environmental factors that contribute to the retention or dropout of these learners, majory providing valuable insights into how physical space and design can be improved to enhance the educational experience and retention of learners with visual impairments in primary schools

1.3 Purpose of the study

The study explored the impact of physical environment on the retention of learners in primary schools with Hornby High School in Kabale district as a case study.

1.4 Objectives of the Study

The study was guided by the following objectives:

- To identify the school physical environmental barriers that hinder the retention of learners with visual impairment.
- To establish the school-based factors that influences Retention of Learners with visual impairment to completion of primary cycle.

- To find the possible measures to overcome the factors that lead to low retention of children with visual impairment

1.5 Research Questions

The research questions that guided this study were;

- What are the school physical environmental barriers that hinder the retention of learners with visual impairment to completion of primary cycle?
- What are the school-based factors that influence Retention of Learners with visual impairment to completion of primary cycle?
- What are the possible measures to overcome the factors that lead to low retention of children with visual impairment?

1.6 Justification of the study

The study on the retention of learners with visual impairment to completion of the primary cycle in one primary school in Kabale Municipality is crucial for several reasons. It addresses an area of significant concern regarding inclusive education and equitable access to educational opportunities for learners with visual impairment. By focusing on retention rates, the study aims to identify barriers and challenges faced by these learners throughout their primary education journey, shedding light on potential areas for improvement in support systems and interventions. Additionally, the findings of this study can inform policy decisions and educational practices aimed at enhancing the educational outcomes and experiences of learners with visual impairment, not only within Kabale Municipality but also more broadly across similar contexts.

1.7 Scope of the study

This section presents the content scope, geographic scope, and time scope.

The study focused on assessing the retention of learners with visual impairment to completion of primary cycle. A case of Hornby High School primary in Kabale Municipality, it examined the school physical learning environment that facilitates the Retention of Learners with visual impairment to completion of primary cycle, established the school-based factors that influences Retention of Learners with visual impairment to completion of primary cycle and suggested the possible measures to overcome the factors that lead to low retention of children with visual impairment.

It was carried out in Northern Division; Kabale Municipality in one selected school which is Hornby High School Kabale municipality is one of the 12 administrative units of Kabale district located in Northern part of Kabale

The study considered a period of 10 years that is from 2014 to 2023 and it took seven months that is from August 2023 to February 2024

1.8 Significance of the Study

Significance of the study includes the following:

By understanding the challenges and barriers faced by learners with visual impairment in completing their primary education, educators and policymakers can develop targeted interventions and support systems to improve retention rates and ensure that these students have equal opportunities for academic success. Additionally, this study will contribute to the broader conversation on inclusive education and highlight the need for accessible resources, specialized teaching methods, and supportive environments for visually impaired students in primary schools.

Furthermore, by focusing on a specific case study in Kabale Municipality, this research can provide localized insights into the unique factors influencing the retention of learners with visual impairment in a particular educational setting. Understanding the specific challenges faced by these students within the context of a specific physical environment can inform tailored strategies that address the needs of both students and educators. This localized approach will also serve as a model for other schools facing similar challenges, offering practical solutions that can be adapted to different contexts.

Moreover, investigating the retention of learners with visual impairment at a specific primary school in Kabale Municipality will shed light on the effectiveness of existing support structures and educational policies aimed at promoting inclusive education. By identifying areas where current practices may fall short or succeed, this study can guide future improvements in educational policies and resource allocation to better support visually impaired students throughout their primary education.

1.9 Definition of terms

Visual Impairment

Visual impairment refers to a significant reduction in vision that cannot be fully corrected with glasses, contact lenses, medical treatment.

Retention

Retention is the action or the ability to keep things rather than losing it or stopping them.

1.10 Theoretical Framework

Social Model of Disability

This study was guided by the social model of disability. The social model of disability is a theoretical framework that views disability as a result of the interaction between individuals with impairments and an environment that is not accommodating to their needs. This model emerged as a response to the medical model of disability, which primarily focuses on the individual's impairment and tends to pathologize disability. The social model emphasizes the role of societal barriers, discrimination, and prejudice in creating disability. It argues that it is not the impairment itself that disables individuals, but rather the physical, attitudinal, and social barriers present in society.

The social model of disability originated in the late 20th century as part of the disability rights movement. It was primarily developed by Mike Oliver (2083) a British disability activist and academician, who sought to challenge the dominant narrative that framed disability as a personal tragedy or medical problem. The model gained traction as a way to shift the focus from fixing individuals to addressing systemic barriers and promoting social inclusion and equality for people with disabilities.

Relevancy

The social model of disability remains highly relevant today as it continues to shape policies, practices, and attitudes towards disability. It has been instrumental in advocating for the rights of people with disabilities and promoting a more inclusive society. By highlighting the role of environmental and social factors in disabling individuals, the social model has influenced legislation aimed at reducing discrimination and ensuring equal access to education, employment, transportation, and public services.

In the context of education, the social model has been pivotal in advocating for inclusive education practices that accommodate diverse learning needs (UNESCO, 2017, WHO, 2011). It emphasizes the importance of creating accessible learning environments, providing support services, and fostering a culture of acceptance and understanding within educational institutions. This is particularly pertinent when considering the retention of learners with visual impairment in primary education.

Weaknesses of the social model of disability

While the social model of disability has been influential in reshaping perceptions of disability, it has also faced criticism from various quarters. Some critics argue that the model oversimplifies the complex nature of disability by solely focusing on societal barriers while downplaying the significance of individual impairments (Cappell,2010). They contend that this approach may neglect the unique needs and experiences of individuals with disabilities (Vernon,1999).

Additionally, there are concerns about the practical implementation of the social model, especially in terms of resource allocation and policy development. Critics argue that while addressing societal barriers is crucial, it should not overshadow efforts to provide necessary support and accommodations for individuals with specific impairments.

Application to Retention of Learners with Visual Impairment

In applying the social model of disability to the retention of learners with visual impairment to completion of primary cycle in Kabale Municipality, it is essential to consider environmental factors that may hinder their educational progress. This includes assessing physical infrastructure such as classrooms and pathways for accessibility, providing assistive technologies or materials for visually impaired students, training teachers on inclusive teaching methods, and fostering a supportive school culture.

A case study conducted at one primary school in Kabale Municipality could involve examining how well these principles are put into practice. This would include evaluating whether there are adequate resources and support systems in place for learners with visual impairment, understanding any attitudinal or social barriers they may face within the physical environment, and identifying areas for improvement in promoting their retention and successful completion of primary education.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of literature related to school dropout amongst visually impaired learners. Literature in relation to the school physical environmental barriers that hinder the retention of learners with visual impairment to completion of primary cycle, the school-based factors that influence Retention of Learners with visual impairment to completion of primary cycle and the possible measures to overcome the factors that lead to low retention of children with visual impairment.

2.1 The School Physical environmental Barriers and the Retention of Learners with Visual Impairment

Examining the school physical learning environment and its impact on the Retention of Learners with visual impairment to completion of primary cycle s is a critical endeavor to ensure inclusive and effective education.

An inclusive physical learning environment must have infrastructure that accommodates the unique needs of learners with visual impairments (Adkins, 2019). This includes features like ramps for wheelchair access, accessible classrooms with clear pathways, and tactile cues that guide pupils. For instance, the American Printing House for the Blind (APH) provides guidelines for tactile floor plans in schools, ensuring that pupils can navigate the building independently. This tactile infrastructure is essential for creating an inclusive environment.

Hershenson (2019) emphasizes the importance of proper classroom design. Minimizing barriers, ensuring adequate lighting, and arranging seating to promote easy navigation are critical aspects. Researchers are of the view that classrooms should have good lighting, avoiding glare and shadows. Additionally, a well-organized seating arrangement helps visually impaired pupils move around comfortably. For example, desks and chairs in rows can provide clear pathways and prevent obstacles.

In her work, Gupta (2017) emphasizes the critical importance of accessible learning materials for visually impaired learners, particularly highlighting the necessity of resources such as braille books and digital materials. Access to these materials is essential for ensuring that visually impaired students can fully participate in educational activities and access the same curriculum content as their sighted peers. The National Library Service (NLS) for the Blind and Print Disabled in the United States plays a pivotal role in this regard by providing a

diverse collection of braille books, audio materials, and digital resources tailored specifically to the needs of visually impaired individuals. Through these offerings, the NLS ensures that visually impaired pupils have equitable access to educational content, promoting inclusivity and supporting their academic success within the educational system.

In their work, Alves et al. (2018) highlight the importance of integrating assistive technologies into educational settings to enhance learning experiences for visually impaired pupils. They highlight various tools such as screen readers, Braille displays, and magnification software that play a crucial role in facilitating access to educational materials and resources. For instance, screen readers like JAWS (Job Access with Speech) are invaluable tools that convert digital text into speech, enabling visually impaired students to independently access online resources and navigate digital content. By integrating such assistive technologies into the learning environment, educators can empower visually impaired pupils to engage more fully with educational materials, participate in classroom activities, and ultimately enhance their overall learning outcomes.

In her work, Baird (2016) emphasizes the critical importance of ensuring physical safety within the learning environment, particularly for visually impaired pupils. A safe and hazard-free environment is paramount for the overall well-being and security of these students as they navigate through daily activities within the school setting. Baird highlights the significance of maintaining facilities to prevent potential hazards, advocating for measures such as slip-resistant flooring and handrails in staircases. By implementing such safety features, schools can mitigate the risk of accidents and injuries, creating a conducive learning environment where visually impaired pupils can focus on their academic pursuits without compromising their safety. This underscores the essential role that physical safety measures play in promoting a supportive and secure educational setting for all students, including those with visual impairments.

In their discussion, Zebehazy and Mulligan (2017) stress the critical importance of orientation and mobility training for learners with visual impairments. This specialized training provides these students with essential skills to navigate their physical environment confidently and independently. Orientation and mobility instructors play a pivotal role in teaching techniques such as using a white cane or guide dog, which are instrumental for safe and efficient travel within the school premises and beyond. By equipping learners with visual impairment with these skills, orientation and mobility training not only enhance their physical mobility but also foster their self-confidence and autonomy, enabling them to actively participate in various school activities and engage with their surroundings more effectively.

In their study, Carroll et al. (2018) highlights the critical role of adequate and well-distributed lighting in classrooms for visually impaired learners. They emphasize that proper lighting enhances visibility, which is essential for students with visual impairments to effectively engage with learning materials. Specifically, the researchers highlight the importance of avoiding glare and shadows, as these can significantly hinder visibility and cause discomfort for visually impaired students. To address this challenge, they suggest the implementation of adjustable task lighting, which allows for focused illumination on learning materials without causing glare or discomfort. By ensuring that classrooms are equipped with appropriate lighting that minimizes glare and shadows, educators can create a more conducive learning environment for visually impaired learners, facilitating their access to educational materials and promoting their academic success.

In their discussion, Cappelli et al. (2016) highlight the practical importance of utilizing braille and tactile labels in educational settings to support visually impaired learners. By labeling classroom objects and spaces with braille and tactile formats, educators facilitate independent navigation for visually impaired students within the learning environment. For example, incorporating braille and tactile symbols on classroom doors enables pupils to identify and locate different areas within the school independently. This approach not only enhances students' autonomy and confidence but also promotes inclusivity by ensuring equitable access to information and resources for all learners, irrespective of their visual abilities.

In their discussion, Cappelli et al. (2016) emphasize the practical significance of utilizing braille and tactile labels to enhance the independence of learners with visual impairment within educational environments. By labeling classroom objects and spaces in braille and tactile formats, educators and administrators can provide essential navigational aids that empower visually impaired students to move around the classroom and school independently. For example, labeling classroom doors with both braille and tactile symbols allows visually impaired pupils to locate and identify different rooms, facilitating smoother transitions between spaces and reducing reliance on sighted assistance. These tactile cues serve as tangible markers that contribute to the creation of inclusive and accessible learning environments, fostering greater autonomy and self-confidence among visually impaired learners.

In their exploration of inclusive educational environments, Pogrund et al. (2014) highlight the significance of inclusive playgrounds in facilitating socialization and physical activity for visually impaired pupils. Accessible playgrounds equipped with features such as tactile pathways and inclusive play equipments not only promote physical engagement but also

foster a sense of inclusivity and belonging among all students. These spaces offer learners with visual impairment opportunities to interact with their peers on equal footing, breaking down barriers and promoting social integration. Similarly, the advocacy by the Blind Children's Resource Center (2019) for flexible seating arrangements highlights the importance of accommodating learners' diverse needs within the classroom environment. By providing options such as adjustable desks and chairs, educators can ensure that each student can comfortably engage in learning activities, regardless of their individual comfort and mobility requirements. These flexible seating arrangements contribute to a supportive and inclusive learning environment where all students can thrive and participate fully in educational experiences.

2.2 School-Based Factors that Influence Retention of Learners with Visual Impairment

Learners with visual impairment face unique challenges in the educational system. The World Health Organization estimates that approximately 1.3 billion people globally live with some form of visual impairment (WHO, 2019). Inclusive education strives to ensure that all pupils, including those with disabilities, receive quality education in mainstream schools (UNESCO, 2017). However, the Retention of Learners with visual impairment to completion of primary cycle remains a critical concern, as they often encounter barriers that hinder their educational progress.

The physical environment of a school plays a pivotal role in determining the Retention of Learners with visual impairment to completion of primary cycle. The physical layout of classrooms, pathways, and facilities should be designed with accessibility in mind. According to the Social Model of Disability, the environment can either enable or disable individuals (Oliver, 1983). Inaccessible spaces can limit learners' mobility and hinder their participation in classroom activities, ultimately affecting their retention.

Ensuring the retention of learners with visual impairment requires the implementation of an inclusive curriculum and the adoption of appropriate teaching strategies (D'Andrea & Farrelly, 2013). Access to braille materials, large print textbooks, and audio resources is fundamental in providing visually impaired students with equitable learning opportunities alongside their sighted peers. Additionally, educators must employ diverse instructional methods, as highlighted by Sacks (2014), including tactile learning and multisensory approaches, to address the diverse needs of learners with visual impairment effectively. By incorporating these strategies into their teaching practices, teachers can create a more

inclusive and supportive learning environment that fosters engagement and promotes the retention of visually impaired students. Failure to adapt teaching strategies to accommodate the unique learning needs of learners with visual impairment may result in disengagement and ultimately lower retention rates among this student population. Therefore, it is imperative for educators to prioritize inclusivity and employ a variety of teaching methods to ensure the academic success and retention of learners with visual impairment

Teacher attitudes play a pivotal role in shaping the educational experiences of learners with visual impairment, as noted by Ferrell (2002). Positive attitudes among educators can foster an inclusive and supportive classroom environment where visually impaired students feel valued and included. Conversely, negative attitudes or a lack of awareness about visual impairment, as highlighted by Gething and Wheeler (2010), can lead to feelings of isolation and hinder the retention of visually impaired pupils. Therefore, it is essential for teachers to receive proper training in inclusive education and strategies for teaching students with visual impairment, as emphasized by UNESCO (2017). By equipping teachers with the knowledge and skills to effectively support and accommodate the needs of visually impaired learners, educational institutions can promote a more inclusive learning environment that enhances retention rates and facilitates the academic success of all students, regardless of their visual abilities.

The involvement of families plays a crucial role in ensuring the retention of learners with visual impairment throughout the primary cycle, as emphasized by the Ecological Systems Theory proposed by Bronfenbrenner (1979). This theory underscores the influence of the microsystem, which includes family dynamics, on a student's development and educational journey. Collaborative efforts between families and schools are essential in addressing the unique needs of visually impaired learners, as highlighted by Vashistha and Mohanty (2018). When families actively participate in their child's education by providing support, encouragement, and advocacy, they contribute significantly to creating an inclusive and supportive learning environment. By working in partnership with schools to address challenges, implement accommodations, and reinforce learning at home, families can help ensure that visually impaired students receive the necessary support to thrive academically and remain engaged in their education, thus enhancing their retention rates and overall educational experience.

Access to appropriate assistive technology and resources is indispensable for learners with visual impairment, as underscored by Dell, Newton, and Petroff (2013). Technologies such as screen readers, magnification software, and Braille displays play a pivotal role in facilitating access to information and active participation in classroom activities for visually impaired pupils. These tools not only enable students to engage with educational materials but also promote independence and inclusion in the learning environment. However, the absence or limited availability of such assistive technologies can pose significant barriers to engagement and hinder the educational progress of visually impaired learners. Without access to these essential resources, students may struggle to fully participate in classroom activities, leading to decreased retention rates and a diminished educational experience. Therefore, ensuring the provision of appropriate assistive technology and resources is essential for promoting the academic success and retention of learners with visual impairment.

Individualized Education Plans (IEPs) serve as crucial mechanisms for tailoring education to the unique needs of learners with visual impairment, as emphasized by Hunt (2014). These plans outline specific goals, accommodations, and support services tailored to the individual needs of each student. By detailing personalized strategies and interventions, IEPs ensure that the educational journey of learners with visual impairment aligns closely with their abilities and learning styles. Through the collaborative efforts of educators, parents, and relevant specialists, well-implemented IEPs address the diverse needs of students with visual impairment, thereby fostering retention and facilitating academic success. By providing a roadmap for tailored instruction and support, IEPs play a pivotal role in optimizing the educational experience and outcomes for learners with visual impairment

Social inclusion is paramount in ensuring the retention of learners with visual impairment throughout the primary cycle, as noted by Dunst, Trivette, and Hamby (2007). Peer interactions and friendships are integral components of a positive school experience for all students, including those with visual impairment. Schools that actively foster a culture of inclusion and facilitate positive social interactions create an environment where visually impaired pupils feel a sense of belonging. By promoting opportunities for collaboration, teamwork, and mutual support among students of all abilities, these schools contribute to the development of meaningful social connections that enhance the overall school experience for visually impaired learners. Consequently, when students feel accepted and valued within their school community, they are more likely to remain engaged and motivated, ultimately contributing to higher retention rates among learners with visual impairment.

School policies and support services play a crucial role in fostering an inclusive environment for learners with visual impairment, as emphasized by UNESCO (2017). These policies encompass various aspects such as transportation arrangements, examination accommodations, and the availability of specialized staff trained to support students with visual impairment. When schools have clear and well-implemented policies in place, they can effectively address barriers that learners with visual impairment may encounter in accessing education and participating fully in school activities. By providing appropriate support services tailored to the needs of these students, schools can enhance their educational experiences and increase their chances of retention. Furthermore, comprehensive policies signal the school's commitment to inclusivity and accessibility, fostering a supportive and welcoming environment for all learners.

Community engagement and awareness are vital components in ensuring the retention of learners with visual impairment throughout the primary cycle, as underscored by Ecological Systems Theory's mesosystem concept (Bronfenbrenner, 1979). By educating communities about visual impairment and its impact on learning, stigma can be reduced, and a more inclusive environment can be fostered. Informed communities are better equipped to provide additional support and accommodations for visually impaired learners, such as accessible infrastructure and social inclusion initiatives. Moreover, when community members understand the unique challenges faced by these learners, they are more likely to advocate for inclusive policies and practices within schools and other community settings. Ultimately, heightened community engagement and awareness contribute to creating a supportive ecosystem that enhances the retention and overall educational experience of learners with visual impairment.

2.3 Possible Measures to Overcome the Factors that Lead to Low Retention of Learners

Children with visual impairment encounter significant obstacles in accessing quality education, resulting in low retention rates, as highlighted by Kekelis et al. (2018). These challenges encompass various factors, including limited access to appropriate learning materials and technologies, inadequate support services, and attitudinal barriers from educators and peers. To address these issues and improve retention rates, it is imperative to explore potential measures and interventions. This literature review seeks to examine existing research and initiatives aimed at enhancing educational outcomes for children with visual impairment. By identifying effective strategies and interventions, policymakers, educators,

and stakeholders can develop targeted interventions to mitigate the barriers faced by these learners, ultimately improving their retention and educational experiences.

Inclusive curriculum design is paramount in providing equitable educational opportunities for all learners, including those with visual impairment, as underscored by Alves et al. (2020). By incorporating Universal Design for Learning (UDL) principles, educators can develop instructional materials that accommodate diverse learning needs. This approach involves designing content that is flexible, customizable, and accessible to a wide range of learners, including visually impaired pupils. Through the integration of accessible digital resources like tactile graphics and audio descriptions, educators can enhance the engagement and retention of learners with visual impairment by providing multiple means of representation, expression, and engagement. By embracing inclusive curriculum design practices informed by UDL principles, educators can create learning environments that cater to the diverse needs of all learners, fostering inclusivity and academic success.

Assistive technology serves as a critical enabler for the inclusion of children with visual impairment in educational settings, as emphasized by Cook and Hussey (2015). Tools such as screen readers, Braille displays, and accessible apps are essential resources that empower visually impaired pupils to independently access and engage with educational content. By integrating these technologies into classrooms, educators can effectively mitigate barriers to learning and create more inclusive environments where learners with visual impairment can actively participate and interact with educational materials. The use of assistive technology not only enhances access to educational content but also promotes greater autonomy and self-reliance among visually impaired students, ultimately contributing to their academic success and overall inclusion within the classroom community.

Teacher training is paramount in establishing an inclusive learning environment, as emphasized by Ezenwafor and Akujuru (2017). Educators require specialized skills and knowledge to effectively address the unique needs of visually impaired learners. Continuous professional development programs are essential to equip teachers with the necessary strategies and techniques for adapting teaching methods, providing appropriate accommodations, and cultivating a supportive classroom atmosphere conducive to the success of all students. Through ongoing training initiatives, teachers can enhance their understanding of inclusive practices and acquire the skills needed to effectively cater to the diverse learning needs of visually impaired pupils, ultimately fostering an inclusive educational environment where every student can thrive and reach their full potential.

Accessible learning resources are critical for the academic success of visually impaired pupils, as emphasized by Pogrund and Fazzi (2014). Offering textbooks and educational materials in formats such as Braille, large print, or accessible digital formats is essential to facilitate engagement and comprehension among these students. Collaborative efforts with publishers and resource centers play a vital role in ensuring the availability and accessibility of such materials. By working together with stakeholders in the education sector, including publishers and resource centers specializing in accessible formats, schools and educational institutions can better meet the diverse learning needs of visually impaired pupils, providing them with the necessary tools and resources to fully participate in the learning process and achieve academic success.

Peer support programs play a crucial role in enhancing the retention of visually impaired pupils, as highlighted by Florian and Spratt (2013). By creating opportunities for interaction between visually impaired students and their sighted peers, these programs promote social integration and reduce feelings of isolation. Sensitization campaigns within schools further contribute to fostering positive attitudes toward inclusivity and diversity. Through peer support initiatives and awareness-raising efforts, schools can cultivate inclusive environments where visually impaired pupils feel supported, valued, and fully integrated into the school community, ultimately improving their retention rates and overall educational experience.

Engaging families and communities are crucial for supporting visually impaired learners, as emphasized by Kalyanpur and Harry (2012). When parents are actively involved in their children's education, it fosters collaboration between the home and school physical environments. Workshops, information sessions, and support groups offer opportunities for parents to acquire the necessary knowledge and skills to effectively support their child's learning journey. By providing parents with resources and strategies tailored to the unique needs of visually impaired learners, schools can strengthen the support network around these students. Through meaningful engagement with families and communities, educators can create a cohesive partnership that enhances the overall educational experience and promotes the retention of visually impaired pupils within the school system.

Physical accessibility is a cornerstone of inclusive education, as underscored by UNESCO (2017). Schools must be equipped with ramps, tactile pathways, and well-designed classrooms to ensure that visually impaired pupils can navigate the environment safely and independently. By removing physical barriers and providing appropriate accommodations, schools create an inclusive atmosphere where all students can participate fully in educational

activities. This commitment to physical accessibility not only enhances the learning experience for learners with visual impairment but also promotes their retention by fostering a sense of belonging and empowerment within the school community. Ultimately, prioritizing physical accessibility demonstrates a commitment to equity and inclusivity in education, ensuring that all students have equal opportunities to thrive and succeed.

Individualized Education Plans (IEPs) serve as indispensable tools in addressing the unique requirements of visually impaired pupils, as emphasized by Browder et al. (2017). These plans are meticulously crafted to delineate customized goals, accommodations, and services tailored to each student's individual needs. Through the ongoing assessment and fine-tuning of these plans, educators ensure that learners with visual impairment receive the necessary support and accommodations to navigate their educational journey effectively. By offering personalized guidance and resources, IEPs play a pivotal role in fostering academic progress, enhancing engagement, and ultimately promoting the retention of visually impaired pupils in the educational system.

Collaboration among various stakeholders is paramount in addressing the retention challenges faced by children with visual impairment, as emphasized by Ferrell et al. (2014). By engaging government agencies, non-governmental organizations (NGOs), educators, parents, and the pupils themselves in decision-making processes, a multifaceted approach to tackling retention issues can be established. This collective effort ensures that diverse perspectives are considered, leading to the development of holistic solutions tailored to the specific needs of visually impaired learners. Through collaborative initiatives, stakeholders can pool resources, share expertise, and coordinate efforts to create an inclusive and supportive educational ecosystem that fosters the retention and success of children with visual impairment in school.

Addressing the low retention rates of children with visual impairment necessitates a comprehensive strategy that encompasses various key components. Inclusive curriculum design ensures that educational materials cater to diverse learning needs, while the integration of assistive technology empowers learners with visual impairment to access and interact with content independently. Teacher training programs equip educators with the necessary skills to support these students effectively, while the provision of accessible resources such as textbooks in Braille or large print enhances engagement. Peer support initiatives foster social

integration, while family engagement activities involve parents in their child's education. Accessible infrastructure, including tactile pathways and ramps, ensures physical accessibility, while individualized education plans cater to the specific needs of each student. Collaboration among stakeholders, including government agencies, NGOs, educators, parents, and students, is essential to coordinate efforts and create an inclusive educational environment where all learners can thrive and succeed.

2.4 Research Gap

Despite increasing awareness of the educational needs of learners with visual impairment, there is a notable lack of comprehensive studies examining how specific physical environments in primary schools affect their retention rates. Existing literature often highlights the general challenges faced by visually impaired students but fails to address the unique contributions of the physical school environment, such as classroom layout, accessibility features, and resource availability, on their persistence in education (Ajuwon, 2008; Kauffman, 2011). Furthermore, while factors influencing retention have been explored in various educational contexts, studies specifically targeting visually impaired learners within the framework of physical environmental influences remain scarce (Mokwena, 2014; Ainscow, 2016). This gap indicates a need for focused research that investigates the interplay between the physical learning environment and the retention of learners with visual impairment in primary education settings, as understanding these dynamics could lead to improved educational practices and policies tailored to this marginalized group.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlines the approach as well as the different steps and methods that employed to carry out the study. It is a description of the procedure used to conduct the study. It includes the research design, study population, sampling strategy, sample size, data collection instruments, data collection process, validity and reliability, and data analysis.

3.1 Research Approach

Qualitative research is a method of inquiry that aims to understand human behavior, experiences, and perspectives in depth. It focuses on exploring the richness, complexity, and context of phenomena. In the context of the case study on the retention of learners with visual impairment to completion of the primary cycle in Kabale Municipality, a qualitative research approach involved gathering detailed, non-numerical data through methods such as interviews, document analysis and observations. This approach allowed researchers to gain insights into the specific challenges faced by visually impaired learners, the support systems in place, and the factors influencing their retention in primary education. By employing qualitative methods, researchers captured the nuanced experiences and perceptions of stakeholders involved in the education of visually impaired students, providing a comprehensive understanding of the factors impacting their educational journey.

3.2 Research Design

A case study was used in the context of investigating the Retention of Learners with visual impairment to completion of primary cycle. It involves an in-depth examination of a specific, real-life case or cases within this educational context. Researchers selected one primary schools (Hornby High School Junior) catering to Pupils with visual impairment and collected comprehensive data through various methods such as interviews, document analysis and observations. By focusing intensively on the selected case, this design allowed for a holistic exploration of the factors, challenges, and support mechanisms influencing the retention of visually impaired Pupils in primary education. It provided valuable insights into individual experiences, school practices, and policy implications that contributed to improving the educational outcomes and retention rates of these Pupils.

3.3 Area of Study

The study was carried out in Kabale Municipality Kabale district located in south western Uganda. Kabale Municipality is a local government administrative unit located in Kabale District in southwestern Uganda. The district is known for its picturesque landscapes and is situated approximately 410 kilometers from Kampala, the capital city of Uganda. Kabale Municipality serves as the administrative center of Kabale District and is characterized by a mix of urban and rural areas. The region has a diverse population with various cultural backgrounds and economic activities. In terms of education, Kabale District is home to numerous primary schools that cater to students with different abilities, including those with visual impairments.

3.4 Population of the Study.

The target population was learners with visual impairment, out-of-school children, teachers, and the head teacher. The learners with hearing impairment were the core participants of this study given their mobility experiences in the school as they navigate its environment for both study and social purposes. This was based on the fact that; Learners with visual impairment in and out of school are directly impacted by the educational system and learning practices The inclusion of SNE teachers and the head teacher was essential because they have a direct role in shaping and facilitating the learning environment. The small number of participants (30 in total) suggests that the study may be focused on a specific, perhaps local, setting, allowing for a more. The population is of 18 learners with visual impairment, 9 out-of-school children, 2 SNE teachers, and the head teacher, totaling 30.

3.5 Sample Size

A sample is "a smaller group obtained from accessible population." (Mugenda, 1999). A sample size of 13 participants was targeted, that is 8 learners with visual impairment, 2 out of school children, 2 SNE teachers and 1 head teacher. The selection of participants for this study was carefully considered to ensure representation from various key stakeholders in the education system of Kabale Municipality, Uganda. The inclusion of 8 learners with visual impairment were engaged being the only pupils in primary seven and six who have spent more years at Hornby High School (J) meaning they have firsthand perspectives from the group most directly impacted by the educational challenges being investigated. Additionally, including 2 out-of-school children provides insight into the experiences of those who may

have faced barriers to accessing formal education. There are only 2 Special Needs Education (SNE) teachers their involvement allows for expertise and insights from professionals who work closely with learners with disabilities on a daily basis. Finally, engaging with 1 head teacher offers a broader administrative perspective, providing valuable insights into the overall management and support structures within the educational institution.

Table 1: The table shows the sample size

category	population	Sample Size
Learners with visual impairment	18	8
Out of school children	09	2
SNE Teachers	02	2
Head teachers	01	1
Total	**30**	**13**

3.6 Sampling Techniques

Sampling is the act, process, or technique of selecting sample, or a representative part of a population to determine the characteristics of the whole population (Mujere, 2017). To carry out this study purposive sampling and convenience were used to select the participants.

3.6.1 Purposive sampling

This is a non-probability sampling approach in which participants are selected based on specific criteria or characteristics that align with the research objectives (Patton, 2002). Researchers intentionally choose individuals or groups who possess valuable insights, expertise, or experiences relevant to the study, enabling the collection of targeted and meaningful data. In this study 08 children with visual impairment were engaged being the only pupils in primary seven and six who have spent more years at Hornby High School (J) meaning they have much experience in interaction within the environment. The teachers were also selected using purposive because they are the only Special Needs teachers in the school. The head teacher was selected purposively because of the position he has in the school.

3.6.2 Convenience sampling

This is a non-probability sampling technique in which researchers select participants who are readily available and easily accessible for inclusion in a study (Babbie, (2016). This method is often used due to its convenience and practicality, especially when time, resources, or

access to a wider population are limited. However, convenience sampling leads to sampling bias, as it may not accurately represent the entire population of interest.

Convenience sampling was used on out of school children because the school drop outs are scatted allover Uganda but 2 out of school children we easily accessible by the researcher.

3.7 Data Collections Methods

In this section, the methods of data collection and their respective tools are explained. These include interviews and observations. The interview guides and observation check lists were used in the data collection from learners visual impaired children and the teachers.

3.7.1 Interviews

With the aid of interview guides interviews were conducted to learners with visual impairment, out of school children, teachers and the head teacher to gather the main data. The participants provided associated information to the study, a process that opportunity to have indepth discussions with participants through probing. The interview covered factors relevant to keeping children who are visually impaired in primary school, with a focus on the physical setting.

3.7.2 Observations

Observations were made on learners with visual impairment as they navigated the school environment. An observation checklist with a predefined list of behaviors, events, or characteristics to pay keen observations to was used and detailed behavioral attributes were recorded during the observation process. This provided a clear framework for data collection and ensured that important aspects were not overlooked. For this reason, data relating to class layout, presence of land marks, handrails, and outside physical outlook arrangement was collected using observation method of data collection. The data triangulated that collected through interviews to guarantee its credibility.

3.8 Pilot study

A pilot study in the context of the retention of learners with visual impairment in primary schools involves a small-scale preliminary investigation that is conducted prior to the main research. The purpose of the pilot study was to test the feasibility, time, cost, risk, and effect size of the proposed research. In this specific case, the pilot study aimed to assess the practicality and potential effectiveness of interventions or strategies designed to improve the retention of learners with visual impairment in primary schools. It involved a small sample of students with visual impairment and their teachers, and could focus on evaluating the impact of specific support mechanisms, teaching methods, or assistive technologies on their

academic performance and overall retention rates. The findings from the pilot study can help researchers refine their research methods, identify potential challenges, and make necessary adjustments before conducting a larger-scale study.

3.9 Data Collection Procedure

Before setting off to the field, approval of the research proposal by the supervisors as well as the Department of Special Needs Studies Kyambogo University was sought. The researcher obtained an introductory letter from the Head of Department which served to introduce the researcher to participants in the selected primary school as well as different authorities in the procedure of collecting data. The researcher went on to formulate a letter addressed to the participants and from there she visited the study location to meet the future participants. In schools, permission was sought from the school administrators and for children not in school, permission was sought from the Local Council I chairperson to be allowed to meet and create rapport with future participants. After agreeing with the participants, the researcher arranged the interviews and conducted with each participant. During the interview the conversation were recorded and at the same time, there was note taking by the researcher. Meanwhile the researcher went ahead to observe and ascertain the nature of the physical environment.

3.10 Data Analysis

Thematic data analysis was used to study qualitative data prior to the analysis; the researcher reviewed the collected row data from interview questions, and observation in order to become familiar with the data. This was done based on the researcher's observations and responses that describe the condition or occurrence under study. The results were then organized and subjected to thematic data analysis. The research objectives were used to examine the responses, which were then categorized into well-known themes.

3.11 Ethical Considerations

Ethics are standards that set apart between appropriate and inappropriate behavior (Resnik, 2011). Resnik continues by stating that they are approaches, steps, or points of view for choosing how to react in a specific circumstance. Participants were given a written document asking for the consent and indicating the purpose of the study. All participants were provided with a description of the research procedures risks and anticipated benefits for them to give an informed consent.

Concerning anonymity, qualitative research uses direct quotations in the study. In this case, care was taken to ensure that such quotations do not contain information that may potentially identify the participant. Participants were informed about direct quotation that as a substitute of identifying information on participants. This was done holding the view that a person should never be traceable from the data he/she presented to the interviewer. Anonymity was observed by using codes during data analysis as a way of protecting participants.

In regard to confidentiality, the researcher ensured that privacy of any participant is guaranteed. Interviews were conducted in a private place where the informant is safe and free to volunteer information.

3.12 Trustworthiness of Findings

Ensuring the credibility and authenticity of research is crucial in maintaining the integrity of the study. In the case of the retention of learners with visual impairment to completion of the primary cycle in Kabale Municipality, it was essential to establish the credibility and authenticity of the data, methods, and findings. This was achieved through rigorous adherence to ethical guidelines, utilizing validated research instruments, employing appropriate sampling techniques, and ensuring transparency in reporting the results. Additionally, peer review and validation by experts in the field can further enhance the credibility and authenticity of the study.

3.1.3 Limitations of the Study

The generalizability of the findings was limited due to the focus on a single primary school in a specific geographical location. The unique characteristics and circumstances of this particular school was not a representative of other schools with learners who have visual impairments. Additionally, the study's findings were not applicable to different educational systems or cultural contexts, as the experiences and challenges faced by learners with visual impairment vary significantly across regions and countries.

Furthermore, the study's reliance on qualitative data from a single primary school limited the breadth and depth of its findings. The experiences and perspectives of learners, and teachers at this specific school did not capture the full range of factors influencing retention rates for learners with visual impairment. Without a broader sample size or comparative analysis with other schools, the study's conclusions lacked comprehensive insight into the complex dynamics affecting learner retention in primary education.

In contrast to limitations, delimitations refer to intentional boundaries or restrictions set by the researchers. In this case study, potential delimitations included the specific focus on learners with visual impairment within one primary school in Kabale Municipality. By

narrowing the scope to this particular demographic and setting, the study intentionally excluded other factors that influence learner retention, such as socioeconomic status, learning disabilities beyond visual impairment, access to specialized resources. Additionally, the study's timeframe and data collection methods also served as delimitations, as they defined the specific parameters within which the research was conducted.

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter presents the findings of the study, providing an in-depth analysis and interpretation of the data collected, and discussing the implications of the results in relation to the research objectives.

4.1 Description of Participants

The study targets were the learners with visual impairment, out of school children, teachers, and the head teacher. This was based on the fact that they are key players during learning of children with visual impairment. The overall sample size expected was 08 learners with visual impairment, 02 out of school children, 02 SNE teachers and the head teacher totaling to 13. All the participants were reached and interviewed as the number was small and manageable. For purposes of anonymity and confidentiality, participants were given pseudonyms for example the teachers who participated in the study were called TR1, TR2 and TR3 whereas learners were given LR1 to LR 10 as shown below.

4.2 School Physical Environment

4.2.1 The physical environmental barriers that hinder the retention of learners with visual impairment

Participants were asked how they would describe the current school physical learning environment both in and outside the class towards the education of learners with visual impairment, their responses show that there is no specific place for parking at the school meaning they park anyhow and pupils normally fall in parked vehicles. This have become a big challenge and some do the off-loading anywhere which have continually injured pupils as they move around.

One participant said;

> We have a problem here at this school where staff with cars, motor cycles and Bicycles Park anywhere in the compound without minding about movements of the visual impaired pupils, (LR4).

Another participant (LR7) said:

> There is when one pupil was sloping down to the dormitory and there was a motorcycle parked before the classroom, the boy fell into it and together with the bike were down good enough he did not sustain any injury this was also evidenced by the researcher during data collection at the school where one student fell in a parked motor cycle in front of the boy's dormitory.

Reserved parking in a school enables learners to move around independently without fear of falling into obstacles. Numerous studies highlight the barriers faced by individuals with visual impairments in schools. Issues range from architectural obstacles to inadequate signage (Smith et al., 2017; Brown and Jones, 2019).

On the same question, other responses, one study participant who dropped out of school said that the compound is not leveled there are many pot holes and tree logs seen which limits the pupil's interaction with the environment.

He said:

> I left school because I was not having a helper to guide me while am moving around the school compound and every time I would try moving around the compound, I would fall in potholes and hit logs around the compound and this discouraged me from loving education, (LR1).

Another participant (LR5) said: *"the compound is full of potholes and more especially in front of the upper-class rooms really the environment is not friendly to us."*

Through observation the researcher witnessed this, the playground is not leveled and the compound is full of water rills and to some extend to gullies which is not conducive for the visual impaired pupils to move around the school compound with ease and some of them end up being discouraged to stay at school. When the environment is free from obstacles it promotes independency thus enjoyment of the school setting.

When the environment is free from potholes pupils can socially interact with others and enjoy their stay at school. This is in line with Pogrund et al. (2014) observes the importance of inclusive playgrounds. Accessible playgrounds provide opportunities for socialization and physical activity for visually impaired students. Features like tactile pathways and inclusive play equipment make these spaces inclusive and fun.



At school there are no Braille text book and other audio resources which can favor us, printed charts are used which makes children with visual impairment not access the work.

One participant said:

> In class rooms, there are different printed charts hanged that explain some topics but for us we cannot get a chance of reading them since they are not in Braille (LR1)

Another study participant (TR2) said:

> Learning aids are not accessible in that the most ones used are printed but not in Braille and this makes it hard for pupils with visual impairment to learn in such environment.

These students encounter obstacles related to traditional learning materials due to their visual limitations. Accessible learning aids play a pivotal role in addressing the challenges faced by students with visual impairments, enhancing their educational experience and promoting inclusivity.

Accessible learning aids, such as Braille textbooks, audio resources, and tactile diagrams, bridge this gap by providing alternative formats that cater to diverse learning needs. Learning aids enable students with visual impairments to independently access and engage with educational content, fostering a more inclusive learning environment (Smith et al., 2017; Johnson and Davis, 2017). Moreover, advancements in assistive technologies, including screen readers and speech-to-text software, contribute to the creation of a barrier-free educational experience, empowering students with visual impairments to participate actively in academic pursuits (Burgstahler, 2019; Wong et al., 2019).

While other participants mentioned that there is inadequate assistive technology at the school (LR4) said that "*I do not have a white cane because my parents cannot afford to buy it*"

Another participant said:

> If I had a white cane, it would assist me to move alone, do you know being with a helper all the time, you find you have no privacy at all is quite annoying (LR1).

A white cane is helpful as it assists children with visual impairment to manipulate the environment but it is expensive for the school to afford to buy for pupils the school depends on donors to get white canes.

The absence of these assistive technologies impedes the students' ability to navigate the physical space effectively, hindering their overall educational experience.

This is in line with Brown and Jones, (2019) and Harrison and Sutherland, (2016) who highlight the challenges faced by these students in navigating school compounds and accessing educational materials when essential assistive devices are lacking.

The routes are not clear and are not roofed which is disturbing especially during the rainy season as children cannot run through the rains, they wait for the rain to fall which may lead to missing out some programs

One participant said:

> When it threatens to rain, I cannot dare setting off from where I am in fear of rain, and you cannot run due slippery pathways, this makes you miss out the next program, (LR3)

Another participant said (LR 6):

> There are confusing pathways in the compound, one with blocks and another one by trace passer making a double route which is confusing and sometime you find pupils missing the route because of those confusing double routes.

Pathways that are not clear having double routes confuses learners and especially when it rains the whole place becomes muddy and slippery which makes pupils not to look smart.

Making physical and social accommodations within the school to accommodate the diverse needs of learners with visual impairment creates an inclusive and supportive environment. Physical accessibility is a fundamental requirement for inclusive education.

Schools should have ramps, tactile pathways, and well-designed classrooms to accommodate visually impaired students. Creating an environment that caters to diverse needs can enhance participation and retention, UNESCO (2017).

The school buildings lack ramps and hand rails to direct learners with visual impairment as they move which leads to limited movements in fear of falling down.

For instance, one participant (LR3) said; "*One time I missed a step while going to the class and I fell down and got an injury on the face and my front teeth got out*"

And another participant said: *"sometimes it is difficult to move alone as the steps are steep and besides, they have not put a handrail to direct us not to miss a step", (LR10).*

Absence of ramps in the structures constructed at the school such as classrooms, dormitories and toilets make it hard for the visual impaired pupils to survive in such environment sometimes when they are moving around, and they miss a step and end up falling.

Ramps are very helpful in the orientation of CWVI and this agreed with Adkins (2019) who points out, that an inclusive physical learning environment must have infrastructure that accommodates the unique needs of learners with visual impairments. This includes features like ramps for wheelchair access, accessible classrooms with clear pathways, and tactile cues that guide students. For instance, the American Printing House for the Blind (APH) provides guidelines for tactile floor plans in schools, ensuring that students can navigate the building independently. This tactile infrastructure is essential for creating an inclusive environment.

The classrooms are congested with seats that are not well arranged to allow them interact with other pupils during group activities. Desks should be set apart to facilitate group learning which may also facilitate participation in social and learning activities. Not the case where pupils hit desks while moving and end up sustaining injuries.

. For instance, one study participant said:

> In our classroom, there are small columns which cannot allow us to pass comfortably across the class rooms and the kind of seats used in classrooms are twin desks with a slating surface that is favorable for writing print but may not be conducive for a child using a hand flame as it needs a flat surface, (LR4).

Another participant (TR2) said:|

> The fact that the seats were not made by one carpenter, they of different sizes, some longer than the others making it difficult to arrange them in aligned way thus not allowing CWVI move freely in class.



A well-organized class promotes free interaction as children more freely with ease not in fear of falling into obstacles as in agreement with Hershenson (2019) who emphasizes the importance of proper classroom design. Minimizing barriers, ensuring adequate lighting, and arranging seating to promote easy navigation are critical aspects. Researchers suggest that classrooms should have good lighting, avoiding glare and shadows. Additionally, a well-organized seating arrangement helps visually impaired students move around comfortably. For example, desks and chairs in rows can provide clear pathways and prevent obstacles.



4.2.2 The opinions on how the physical learning environment could be improved

Participants were also asked their opinions on how the environment could be improved to facilitate the learning of learners with visual impairment. The responses from 9 participants were that the classroom layout does not put children with visual impairment in consideration especially when arranging the seat in classroom.

The results show that the desks used does not favor them especially when it comes to group work and where they need to move around the class to consult their friends. CWVI should be given seats according to their preference and in consideration of their limitations.

One participant (TR2) said:

> When Learners with visual impairment are located specified and well-maintained seats in classrooms, which are comfortable and flexible as they write with a hand flame and be placed in a position that favors his sight in relation to the teacher's position so as to get clear instructions, facilitates retention of CWVI.

Another participant (L1) said: "*the twin desks we used in ordinary classrooms were not friendly with us especially when we were to engage in group work, we could not fully participate*"

The physical arrangement of the classroom can significantly impact the accessibility and ease of movement for students with visual impairments. A well-designed classroom can promote their independence and participation in learning. The physical environment of a school plays a pivotal role in determining the Retention of learners with visual impairment to completion of primary cycle. The physical layout of classrooms, pathways, and facilities should be designed with accessibility in mind. According to the Social Model of Disability, the environment can either enable or disable individuals (Oliver, 1983). Inaccessible spaces can limit learners' mobility and hinder their participation in classroom activities, ultimately affecting their retention.

Other participants (10) mentioned that the physical safety in the learning environment is a challenge.

The environment is filled with pot holes and when it rains the surface is logged with stagnant water. Children fall into the water and mud especially in rainy season which makes them not look smart, and causes discomfort to them. For example, one participant (LR2) said:

> There is nothing I hated at school like the rainy season when the whole school was muddy and the pot holes are filled up with water and you could fall into them. This made us not look smart and our shoes would get torn so quickly.

Another participant (LR1) said:

> I left school because I was not having a helper to guide me while am moving around the school compound and every time I would try moving around the compound, I would fall in potholes and hit logs around the compound and this discouraged me from loving education, (LR1).

The muddy and slippery grounds may affect their self - confidence and wellbeing. Baird (2016) underscores the importance of physical safety in the learning environment. A safe environment, free of hazards, is crucial for the well-being of visually impaired students. Properly maintained and hazard-free facilities are essential. For instance, slip-resistant flooring and handrails in staircases contribute to safety. According to other participants (9) talked of the class being free from echoed sound which enables them to hear well the teacher while in class teaching.

The teachers' sound is well produced in class and as they depend much on listening, they have benefited. Optimizing the acoustic environment within classrooms and school spaces can enhance students' ability to hear and understand auditory information.
One participant (LR9) said:

> Our classes are good in that when the teacher is telling you hear him/her well without getting an echo, it was only when we were in primary three where we were using the main hall that we could hear the teachers echo and we could miss a lot as our learning depends much on hearing.

Another participant *(LR2)* said: *"the sound in class is well projected the teachers sound is well hard"*

This is in line with Mann (2019) who addresses the need for acoustic considerations in the learning environment. Reducing noise and ensuring good acoustics benefit visually impaired learners, as they rely on auditory cues. Acoustic treatments, such as sound-absorbing materials, can create a more conducive learning environment.

According to other participants (6) the presence of ramps that are gently sloped, handrails and landmarks at the school can make learners feel comfortable while at school.
One participant (LR3) said: "*One time I missed a step while going to the class and I fell down where I got injury on the face and my front teeth got out*"

Another participant (LR5) said: "*if the environment can be modified with contrasting colours around especially on different doorways or put tactile tag*"

The environment is not modified to suit the learner's limitation one can hardly see any provision of CWVI. There is need for environmental modification to enable learners navigate around the school easily thus increasing learners' inclusiveness.

Making infrastructure enhancements, such as improving the accessibility of the physical environment, can facilitate safe and independent mobility for students with visual impairments. Physical accessibility is a fundamental requirement for inclusive education. Schools should have ramps, tactile pathways, and well-designed classrooms to accommodate visually impaired students, UNESCO (2017). Creating an environment that caters to diverse needs can enhance participation and retention.

On the same question talked of friendly peers;

one participant (TR1) said: "*Peers are friendly to CWVI even thou sometimes children with VI do not cooperate but you find their peers are cooperative and patient with them.*"

Another participant (LR8) said: "*since we depend much on our peers to access the print content, we have to befriend them as we cannot do much without them.*"

Peers are friendly to CWVI and they are very patient with them as sometimes CWVI tend not to cooperate but they do not give up the support.

Pairing students with visual impairments with peer buddies who can assist with mobility and provide social support has been shown to positively impact their retention.

Peer support programs can significantly impact the retention of visually impaired students. Florian and Spratt (2013), observe creating opportunities for interaction between visually impaired and sighted peers fosters social integration and reduces isolation. Sensitization campaigns within schools can raise awareness and promote positive attitudes toward inclusivity.

The study findings indicate creation of an environment that accommodates learners' diverse needs, acoustic considerations infrastructure enhancement, peer support, use of assistive devices classroom lay out are strategies that can be implemented to minimize the challenges related to the physical environment that might affect the retention of learners with visual impairment

4.2.3 Specific changes put in place to support the Educational Needs of learners

When asked of the changes that have been put in place to support the Educational Needs of learners with visual impairment, participants gave the following responses. The sample size of 13 participants reported of having a resource room with a CCTV (Closed-Circuit Television), Slates and stylus, a computer installed with JAWS (Job Access with Speech) a clear reader and an obit reader which aids in the reading and accessing visual information and the resources were seen in the resource room.

One participant said:

> Before they brought us this CCTV, I used to struggle to do my exams when I was given a font that was not favoring my sight but now, I use the CCTV to enlarge the work to my favorite font, (LR7).

Another participant said: *"at least since I joined primary one, we have never lacked slates and stylus; the school provides and at primary seven you go with that set"*

Another participant (LR8) said: *"clear readers have enabled learners to access the curriculum content especial in English subject where the stories are read aloud by the clear reader making them not left behind."*

They hope the newly installed ICT room will be helpful in their education and empowering pupils to access and interact with educational content independently and the school has been consistently provided CWVI with slates and stylus.

Assistive technology plays a pivotal role in promoting the inclusion of children with visual impairment and allows pupils to access digital content, use standard software applications, and navigate the web, thus promoting computer literacy and independent research and learning. Alves et al. (2018) emphasize the integration of assistive technologies to enhance learning. Tools such as screen readers, Braille displays, and magnification software significantly benefit visually impaired students.

On having enough light (5) participants reported it. One of participant (LR6) said: *"The school have managed to modify the classrooms and the structures to help us learn well. There is enough light."*

Another participant said: "*we do not get light reflections in our class and there is enough light, (LR3)."*

The classrooms are very well set up and they receive enough light that facilitates learning of children with low vision.

Well-lit classrooms improve visibility and help students with visual impairments make the most of their remaining vision. Carroll et al. (2018) stresses the importance of adequate and well-distributed lighting in classrooms. Proper lighting enhances visibility for visually impaired learners. It is important to avoid glare and shadows. For example, adjustable task lighting can provide focused illumination on learning materials without causing discomfort.

4.3 School-Based Factors Influencing Retention:

4.3.1 What can be by or in the school to reduce dropping out.

This objective sought to find out provision that can influence retention of CWVI at school findings.

When the participants where asked what they think can be by or in the school to reduce dropping out of CWVI from school hence influence the retention. This is how they responded;

The school operates outside regulations and guidelines as no school should operates with no sign post showing the kind of pupils in the school.

One participant (TR2) said:

> Sometimes I wonder what responsibility is to ensure our safety and welfare while at school, there should be some rules and regulations and penalties be put in place for people who defile the rules like parking their vehicles along the way.

Another participant said: "*are working hard to put posts in our school to guide visitors know the kind of children we have in school and the parking be marked" (TR2).*

The school should put measures to ensure pupils are safe guarded from risk factors and they try to provide a safe environment while at school. And the government should consider having in place the laws to govern the operation of schools with children with disabilities and they ensure the school is on certain standard before it operates.

School policies that support the inclusion and accommodation of students with visual impairments are fundamental. These policies can shape the overall environment and practices within the school. School policies and support services are integral to creating an inclusive

environment for learners with visual impairment. These policies encompass a range of areas, including transportation, examination accommodations, and specialized staff, UNESCO, (2017). Clear and well-implemented policies can eliminate barriers and provide the necessary support for visually impaired learners, improving their chances of retention.

Among the participants (10) showed that teacher especially in those not trained in special Needs Education do neglect CWVI, they feel they cannot assist them in any way, one participant (LR7) said: *"when teachers attend to us as they do to ordinary learners we feel comfortable and enjoy our stay in school."*

Another participant said:

> some teachers have negative about the education of children with visual impairment, there is when a certain teacher commented "I have not marked the normal children and you are telling me of those Blind children" first priority is given to ordinary children and children with VI come last or sometimes miss out, LR5).

Teachers portray negative attitude towards CWVI and more especially the teachers who are not trained.

Teachers' attitude plays a crucial role in the educational experience of pupils with visual impairment. Attitude guides pupil's behavior in one way or the other. A positive attitude that is supportive and accommodating is likely to enhance the retention of these learners. This agrees with Ferrell (2002) who points out that teacher attitudes significantly impact the educational experiences of learners with visual impairment. Positive teacher attitudes can create an inclusive and supportive classroom environment and Gething and Wheeler (2010) who also talked of how negative attitudes or lack of awareness about visual impairment can contribute to feelings of isolation and hinder the students' retention. Proper teacher training in inclusive education and strategies for teaching students with visual impairment is crucial (UNESCO, 2017).

In the same way, 10 participants shown that learners accessing the learning material in a convenient way. One participant said that,

> When teachers give us work in Braille and while other children are reading from the text book, we are also reading from our own work we feel we are moving together and feel we have not missed any content, (LR8).

Another participant said.

> We find difficult in spellings of some words with same pronunciations like know and no, still and steal and other difficulty word as we write what we hear and pupils do not normally spell for us, (LR5).

CWVI depend much on their peers in order to access the learning content, the peers read for them what is on the black board and for us we write what we have heard without seeing how it is spelt which makes us have spelling errors in our writing.

Access to Braille materials is essential for students with visual impairments who use Braille as their primary reading and writing medium. It directly impacts their ability to access educational content. Cappelli et al. (2016) discuss the use of braille and tactile labels. Labeling classroom objects and spaces in braille and tactile formats helps learners with visual impairment navigate independently. For instance, labeling classroom doors with both braille and tactile symbols can assist students in finding their way.

More participants (10) talked of the curriculum not being adopted to benefit learners with visual impairment. One participant said: *"When the experiments and drawings are modified to enable both learners access the same content, makes CWVI feel not left out thus enabling the stay in school"*

Another participant said:

> me I thought we were all supposed to learn the same material but there is when ordinary children are given drawings and teachers do not mind explaining for us the drawing and when it comes to exams the same diagram would appear and the score would be the same.

Most teachers do not mind if the content, material, ideas and methods of assessment are modified to cater for CWVI.

An inclusive curriculum that addresses the diverse needs of students, including those with visual impairments, is essential for their academic success and retention. It ensures that they have access to the same educational content as their peers especially when it comes to drawing and experiments. This conquers with D'Andrea and Farrelly (2013) who point out who an inclusive curriculum and appropriate teaching strategies are crucial for retaining learners with visual impairment. Braille materials, large print textbooks, and audio resources are essential tools to facilitate learning for these students. And Sacks (2014) emphasizes

teachers to adopt diverse instructional methods, such as tactile learning and multisensory approaches, to cater to the varying needs of visually impaired learners. Failure to adapt teaching strategies can lead to disengagement and decreased retention rates.

More 9 Participants talked of the teaching methods used that are not appropriate. One participant (LR9) said:

> If CWVI are given clear instructions, like; turn right, point to your left, when a positive cross the equal signs it will be a negative, this will help them enjoy their education thus being retained in school."

Another participant said:

> I remember well how other pupils were enjoying a lesson on prepositions, as for us who were not seeing where the teacher would be placing the object we were just rhyming, (LR8).

The methods used while teaching do not cater for learners needs mostly in mathematics where a teacher may be teaching and you find him using words like take 2 this side and remove 4 from this side and children are not seeing which side, he/she is pointing to, they do not get clear instructions.

Using teaching methods tailored to the needs of students with visual impairments is crucial for their retention. This includes methods that focus on tactile learning, auditory learning, and the use of assistive technologies. Inclusive education strives to ensure that all students, including those with disabilities, receive quality education in mainstream schools, UNESCO (2017). However, the Retention of learners with visual impairment to completion of primary cycle remains a critical concern, as they often encounter barriers that hinder their educational progress.

In addition, the classroom layout doesn't put children with visual impairment in consideration especially when arranging the seat in classroom. Participant (TR3) said:

> When Learners with visual impairment are located specified and well-maintained seats in classrooms, which are comfortable and flexible as they write with a hand flame and be placed in a position that favors his sight in relation to the teacher's position so as to get clear instructions, facilitates retention of CWVI.

Another participant (LR2) said: "*the twin desks we use in ordinary classrooms are not friendly with us especially when we are to engage in group work, we do not fully participate"*

CWVI do not fully easily consult their friends in class during a given activity because their seats are fixed and they not conducive for them as they write with their hand flame.

The physical arrangement of the classroom can significantly impact the accessibility and ease of movement for students with visual impairments. A well-designed classroom can promote their independence and participation in learning. The physical environment of a school plays a pivotal role in determining the Retention of learners with visual impairment to completion of primary cycle.

The physical layout of classrooms, pathways, and facilities should be designed with accessibility in mind. According to the Social Model of Disability, the environment can either enable or disable individuals, Oliver, (1983). Inaccessible spaces can limit learners' mobility and hinder their participation in classroom activities, ultimately affecting their retention.

Family involvement was also highlighted by 6 participants who showed that parents of visual impaired pupils are not always involved in school activities. One participant (LR2) said:

> When families are actively engaged in their children's education, it can lead to better outcomes. My parents used to send me to school with nothing to use while at school, I could be given a piece of soap and they promise to bring more on visiting day and they could not be seen until the term ends.

Another participant said:

> The parents do not support their children they do not attend parents' meetings or come for visiting days and most parents bring their children and leave them in the compound as the term begins and the school takes the initiative of transporting them back when the term ends, (LR10).

Parents do not normally support CWVI while at school to the extent that sometimes they do not even give them personal materials to use while at school as all are residents at school and they real visit them or take part in school meetings.

Family involvement and support are significant for the success and retention of students with visual impairments. There is need to get a representative for parents of CWVI on School

Management committees (SMC) and the Parents Teachers Association of the school as governing bodies of the school so that their views are also aired out.

When families are actively engaged in their children's education, it can lead to better outcomes. The involvement of families is instrumental in the Retention of learners with visual impairment to completion of primary cycle. Ecological Systems Theory highlights the influence of the microsystem, including family dynamics, on a student's development (Bronfenbrenner, 1979). And it was also supported by Vashistha and Mohanty, (2018) who also said that Collaborative efforts between families and schools can ensure that the specific needs of learners with visual impairment are met, enhancing their retention and overall educational experience.

Addressing individual differences are not catered for in class, the teacher goes with a few who quickly pick up and the majority are not a concern of the teacher.

In that, one participant (LR2) said:

> Teachers normally do not consider our limitations while in class for example a teacher may use a diagram in his/her teaching and cannot consider embossing it for CWVI to touch and feel to benefit like any other student

Individual differences are not catered for while teaching, for example where a teacher gives an activity with a diagram and does not consider an alternative activity for a CWVI.

An Individualized Educational Program (IEP) is a personalized plan designed to meet the 'specific needs of each student with a visual impairment. Having an IEP can be critical for addressing their unique requirements. According to Hunt (2014) an individualized Education Plans (IEPs) are essential tools for tailoring education to the needs of learners with visual impairment. IEPs outline specific goals, accommodations, and support services for each student. When well-implemented, IEPs ensure that the educational journey of learners with visual impairment aligns with their abilities, fostering retention and academic success.

Addressing the low retention rates of children with visual impairment requires a multifaceted approach that encompasses inclusive curriculum design, attitude, accessible resources, teaching methods, family involvement, and classroom lay, out individualized plans, access to Braille material, and school policy. By implementing these measures, educators and policymakers can work together to create an environment that enables all learners to thrive.

4.3.2 Roles parents play in the school to improve retention rates for these learners

On asking participants what roles parents have played in the school to improve retention rates for these learners, they gave the following.

Parents have a good net-working to the extent that where one benefits from have to connect others.

One participant said:

> Most of the children we are having here are supported by sponsors not got from school but by the effort of parents who try to get way how to support the education of their children, (TR1).

Another participant (TR2) said: *"majority of pupils have got sponsorship through links of a few who had to the program that connects with sponsor"*

Parents often act as advocates, ensuring that the school provides appropriate resources and support for CWVI this advocacy contributes to a more inclusive educational setting. This is in line with Miller and Johnson (2017) collaborating with organizations like national federation of the Blind can empower parents (NFB,2021) Who said Parental advocacy plays a key role in advocating for the educational needs of children with visual impairment

Parents do relate well with teachers which is necessary for the success of learner. One participant said.

> our parents are always collaborating with teachers for effective learning and independence living, my teachers always tell our parents to involve me in activities of daily living and other home chores and which our parents have real done which have promoted our self -reliance, (LR6).

Another participant (LR3) said: *"when parents bring their children during the beginning of the term and as they come to pick them, they cannot go without seeing the teachers"*

Parents do relate with teachers which have promoted their education missing a teacher when a parent has come to school makes no sense to a parent. The ways the parents communicate and interact with teachers have brought improvement on the way parents treat them. They have tried to train us activities of daily living and equipping us with independence skills which are helpful in our daily living. The manner in which the teachers communicate and

interacts with parents effect the extent and quality of parent's home involvement in child's learning

Communication between parents and teachers is vital. It helps parents to monitor the progress of learners, address challenges and collaboratively work on solutions. The strategies for communication as indicated by John, (2016) may include regular meeting, clear communication channels and utilizing assistive technologies who also said that effective communication is essential.

In addition, parents caring out guidance and counseling which have motivated them to remain in school amidst the challenges they meet in their education. One participant said:

> Our parents have continually guided and counseled us, they show us their love and care, feeding us and have made the community aware of our potentials by not closing us into doors, (LR9)

Another participant (LR5) said: *"my parents have continually guided and counseled which have promoted my social, educational and career development"*

Parents normally do a lot of work as they talk to learners and encourage them in their studies which help them to remain focused.

Through guidance and counselling children are helped to appreciate their individual differences and are able to interact with others peers. According to Taylor (2020) Guidance and counselling services are essential for addressing the emotional and social needs of visually impaired students. Collaborating with specialized counselors and support groups can enhance the overall well-being of students (Perkins school for the Blind, 2021).

The parents try their level best to provide for children's wellbeing.

One participant (TR 3) said: "*parents do provide their children with school personal necessities as most of the children do sleep at school and this motivates children in their learning"*

Another participant (TR2) said: "*when we are reporting its quite challenging especially in provision of basic needs but my parents try to provide for me the requirements at school.*"

And the other participant (TR1) said: parents have tried to provide CWVI what is required for a boarding child as it difficult for the child to commute to and from school.

At the core of retention is a supportive home environment. Parents of children with visual impairment often create space that encourage learning, providing necessary materials and emotional support. This agrees with Doe and smith (2018) who highlights what a home-based support involve like creating an inclusive learning environment and involving family members in the educational process. Community organizations and online resources can offer additional support (American Foundation for the Blind 2022)

Other participants (3) said that some parents try their level best to support their children and they escort them to school. One participant (TR1) said:

> There is a slight improvement in the behavior of parents, not like in the previous years where some CWVI could spend the whole holiday at school and parents would pick them during third term holiday. Parents endeavor to take their children to school and picking them as the term closes.

Other participant (TR2) said that while in lower classes their parents could not come to pick them and if at all they come they would be the last to be picked after they have threatened them to find us at police but there is an improvement now.

Communities often organize transportation solutions, ensuring that CWVI can easily commute to and from school, reducing barriers to regular attendance. Transportation challenges can affect access to education. Collaborating with transportation services and utilizing accessible transportation options are crucial, Wilson (2019).

The findings of the study show that parents play a pivoted role in supporting learners with VI in their educational journey through guidance and counseling, parental advocacy, communication with educators, home based support and transportation assistance. Their involvement is critical for enhancing retention rates and ensuring a conducive learning environment.

4.4 Measures to Overcome Factors Leading to Low Retention

Participants were asked strategies that could be put in place to address the factors leading to retention of learners. On asking the participants the strategies the school have put in place to address the factors leading to retention of learners with visual impairment, they gave out the following responses.

Use of learning resources were one participant said:

> We try to modify and improve the teaching materials to suit the varying needs of CWVI and the school has tried to support us especial in financing the resources that are not readily available. *(TR1)*

Another participant said: "*teachers rarely use real learning aids and sometimes the material could be accessible but they generalize all of us to be knowing it.*"

Teachers do not mind much on using learning resources that pupils can touch and feel. They forget that CWVI see by touching.

Making sure that learning materials are accessible in multiple formats, including Braille, audio, and digital, enables students with visual impairments to access educational content independently. Accessible learning resources are paramount for the success of visually impaired students. This is supported by Pogrund and Fazzi (2014) who point out providing textbooks and materials in Braille, large print, or accessible digital formats can enhance engagement and comprehension. Collaborations with publishers and resource centers are essential to ensure the availability of such materials.

Family engagement, some parents endeavor to support their children in their education. One participant (LR1) said:

> I felt envy when other parents would come to visit their children and attend meetings, and my parent is not there meaning we would go with other people's decisions.

Another participant (TR3) said: *"parents of CWVI do not normally attend academic meetings visiting days and PTA meeting and this demotivates their children"*

Parents do not consider taking part in the education of their children as an essential thing to the extent of even not taking part in meetings where big decisions to run the school are approved.

Collaborating with families is essential for a student's success. Regular communication, support, and involvement in their child's education can positively impact the student's retention. The involvement of families is instrumental in the retention of learners with visual impairment to completion of primary cycle. Ecological Systems Theory highlights the influence of the microsystem, including family dynamics, on a student's development, Bronfenbrenner (1979). Collaborative efforts between families and schools can ensure that

the specific needs of learners with visual impairment are met, enhancing their retention and overall educational experience, Vashistha and Mohanty (2018).

According to other participants (9) talked of the class being free from echoed sound which enables them to hear well the teacher while in class teaching. One participant (LR9) said:

> our classes are good in that when the teacher is telling you hear him/her well without getting an echo, it was only when we were in primary three where we were using the main hall that we could hear the teachers echo and we could miss a lot as our learning depends much on hearing.

Another participant *(LR2)* said: *"the sound in class is well projected the teachers sound is well hard"*

The teachers' sound is well produced in class and as they depend much on listening, they have benefited. Optimizing the acoustic environment within classrooms and school spaces can enhance students' ability to hear and understand auditory information.

This is in line with Mann (2019) who addresses the need for acoustic considerations in the learning environment. Reducing noise and ensuring good acoustics benefit visually impaired learners, as they rely on auditory cues. Acoustic treatments, such as sound-absorbing materials, can create a more conducive learning environment.

Enough lighting other participants (5) talked of their class is having enough light. One of participant said: *"The school has managed to modify the classrooms and the structures to help us learn well. There is enough light.*"

Another participant said: "*we do not get light reflections in our class and there is enough light.*"

The classrooms are very well set up that they receive enough light that may facilitate learning of children with low vision.

Well-lit classrooms improve visibility and help students with visual impairments make the most of their remaining vision. Carroll et al. (2018) stresses the importance of adequate and well-distributed lighting in classrooms. Proper lighting enhances visibility for visually impaired learners. It is important to avoid glare and shadows. For example, adjustable task lighting can provide focused illumination on learning materials without causing discomfort.

The two teachers trained in Special Needs Education do assist in making teachers access learner's work. One participant said that,

> We normally transcribe the work for other teachers who do not know braille to easily assess and give feedback to learners with VI and in the same way we braille children's work.

Another participant said: "*during internal workshops we have tried to train ordinary teachers on skills to work with CWVI.*"

Providing teachers with specialized training in educating students with visual impairments ensures that they have the necessary skills and knowledge to support these students effectively. Training can cover Braille, assistive technology, and inclusive teaching methods. Teacher training is essential to create an inclusive learning environment. As highlighted by Ezenwafor and Akujuru (2017), educators need specialized skills to address the unique needs of visually impaired learners. Continuous professional development programs should be provided to equip teachers with strategies for adapting teaching methods, providing appropriate accommodations, and fostering a supportive classroom atmosphere.

Study findings show strategies provided at school that influence retention of CWVI in primary school which varied critically as, use of accessible learning resources, training teachers well-lighted classroom, acoustic consideration, and family engagement to address the factors leading to retention of learners with visual impairment.

4.4.1 Challenges related to the physical environment that might affect the retention

On asking the challenges related to the physical environment that might affect the retention of learners with visual impairment, the participants gave in the following responses.

Lack of a parking yard for staff vehicles.

> We have a problem here at this school where staff with cars, motor cycles and bicycles park anywhere in the compound without minding about movements of the visual impaired pupils, (LR4).

Another participant (LR7) said:

> There is when one pupil was sloping down to the dormitory and there was a motorcycle parked before the classroom, the boy fell into it and together with the bike were down good enough he did not sustain any injury this

was also evidenced by the researcher during data collection at the school where one student fell in a parked motor cycle in front of the boy's dormitory.

There is no specific place for parking at the school meaning they park anyhow and pupils normally fall in parked vehicles. This has become a big challenge and some do the off-loading anywhere which have continually injured pupils as they move around.

Reserved parking in a school enables learners to move around independently without fear of falling into obstacles. Numerous studies highlight the barriers faced by individuals with visual impairments in schools. Issues range from architectural obstacles to inadequate signage (Smith et al., 2017; Brown and Jones (2019).

The physical safety in the learning environment as a challenge was mentioned by 10 participants. One participant said:

> There is nothing I hated at school like the rainy season when the whole school was muddy and the pot holes are filled up with water and you could fall into them. This made us not look smart and our shoes would get torn so quickly (LR2).

Another participant (LR5) said: *"the compound is full of potholes and more especially in front of the upper-class rooms really the environment is not friendly to us."*

The compound is not leveled, there are many pot holes and tree logs seen which limits the pupil's interaction with the environment.

The muddy and slippery grounds may affect their self - confidence and wellbeing. Baird (2016) underscores the importance of physical safety in the learning environment. A safe environment, free of hazards, is crucial for the well-being of visually impaired students. Properly maintained and hazard-free facilities are essential. For instance, slip-resistant flooring and handrails in staircases contribute to safety.

Difficulty in moving around the school independently was also another challenge (9). One participant said:

> My time at school was like a prison where you could be in one place in fear of banging into obstacles along the way. The sighted pupils assumed everyone had sight and they did not mind clearing the way for us. There is

when my friend fell into a source pan in the dining hall and he was seriously injured (LR2).

Another participant said: *"there is when they off-load fire wood logs along the way which makes us fear to move around."*

When the environment is not free from obstacles children with visual impairment may fear to move around alone and their movement may be restricted in one area. And in this case the researcher witnessed a pupil fall in a motor cycle which was parked in the door way to their dormitory. When a child falls into a parked vehicle that may lead to injuries this makes the child have restricted movements.

In line with Zebehazy and Mulligan (2017) discuss the significance of orientation and mobility training. This training equips learners with visual impairments with essential skills to navigate the physical environment confidently. Orientation and mobility instructors teach techniques such as using a white cane or guide dog for safe and independent travel.



A challenge of Socialization due to fear of tripping or falling was mentioned by 8 participants. One participant (TR3) said:

> It is hard to see children with visual impairment play with ordinary pupils, one time I tried to involve them but the pupils were open to tell me that they fear to fall down as the ground is not leveled.

Another participant (LR4) said: "*it is not that we do not like playing with others but we fear falling down due to unleveled ground.*"
CWVI do not play with others in fear of falling in potholes and if the ground was leveled, they would socialize with others than isolating ourselves.

Through observation the researcher witnessed this, the playground is not leveled and the compound is full of water rills and to some extend to gullies. This is in line with Pogrund et al. (2014) discussion about the importance of inclusive playgrounds. Accessible playgrounds provide opportunities for socialization and physical activity for visually impaired students. Features like tactile pathways and inclusive play equipment make these spaces inclusive and fun. Social inclusion plays a critical role in the Retention of learners with visual impairment to completion of primary cycle. Peer interactions and friendships contribute to a positive school experience (Dunst, Trivette, and Hamby, 2007). Schools that promote a culture of inclusion and encourage positive social interactions can enhance the sense of belonging for visually impaired students, positively impacting their retention rates.

Pathways that are not clear especially when it is raining the whole place is muddy and slippery which makes them not look.

One participant said:

> When it threatens to rain, I cannot dare setting off from where I am in fear of rain, and you cannot run due slippery pathways, this makes you miss out the next program, (LR3).

Another participant said (LR 6):

> There are confusing pathways in the compound, one with blocks and another one by trace passer making a double route which is confusing and sometime you find pupils missing the route because of those confusing double routes.

The routes are not clear and are not roofed which is disturbing especially during the rainy season as children cannot run through the rains, they wait for the rain to fall which may lead to missing out some programs.

Children's safety is paramount in their education and this agreed with Baird (2016) who underscores the importance of physical safety in the learning environment. A safe environment, free of hazards, is crucial for the well-being of visually impaired students. Properly maintained and hazard-free facilities are essential. For instance, slip-resistant flooring and handrails in staircases contribute to safety.

According to other participants (6) the presence of ramps that are gently sloped, handrails and landmarks at the school can make learners feel comfortable while at school. One participant (LR3) said: "*One time I missed a step while going to the class and I fell down where I got injury on the face and my front teeth got out*"

Another participant (LR5) said: "*if the environment can be modified with contrasting colours around especially on different doorways or put tactile tag"*

The environment is not modified to suit the learner's limitation one can hardly see any provision of CWVI. There is need for environmental modification to enable learners navigate around the school easily thus increasing learners' inclusiveness.

Making infrastructure enhancements, such as improving the accessibility of the physical environment, can facilitate safe and independent mobility for students with visual impairments. Physical accessibility is a fundamental requirement for inclusive education. Schools should have ramps, tactile pathways, and well-designed classrooms to accommodate visually impaired students, UNESCO (2017). Creating an environment that caters to diverse needs can enhance participation and retention.

An arranged Classroom that hinders easy movements of pupils with visual impairment. For instance, one study participant said:

> In our classroom, there are small columns which cannot allow us to pass comfortably across the class rooms and the kind of seats used in classrooms are twin desks with a slating surface that is favorable for writing print but may not be conducive for a child using a hand flame as it needs a flat surface, (LR4).

Another participant (TR2) said:|

> The fact that the seats were not made by one carpenter, they of different sizes, some longer than the others making it difficult to arrange them in aligned way thus not allowing CWVI move freely in class.

The classrooms are congested with seats that are not well arranged to allow them interact with other pupils during group activities. Desks should be set apart to facilitate group learning which may also facilitate participation in social and learning activities. Not the case where pupils hit desks while moving and end up sustaining injuries.

A well-organized class promotes free interaction as children more freely with ease not in fear of falling into obstacles as in agreement with Hershenson (2019) who emphasizes the importance of proper classroom design. Minimizing barriers, ensuring adequate lighting, and arranging seating to promote easy navigation are critical aspects. Researchers suggest that classrooms should have good lighting, avoiding glare and shadows. Additionally, a well-organized seating arrangement helps visually impaired students move around comfortably. For example, desks and chairs in rows can provide clear pathways and prevent obstacles.

4.4.2 What could be done to minimize the challenges.

On asking what could be done to minimize the above challenges, participants gave various strategies that can be implemented. Here are the strategies that can be done to positively impact the retention of such learners:

The physical layout of the class can be considered it can effectively promote retention of CWVI. One participant (TR2) said:

> When Learners with visual impairment are located specified well-maintained seats in classrooms, which are comfortable and flexible as they write with a hand flame and be placed in a position that favors his sight in relation to the teacher's position to get clear instructions, facilitates retention of children with visual impairment.

Another participant said:

> In our classrooms where we study from, there are small columns which cannot allow us to pass comfortably across the class rooms and the kind of seats used in classrooms are twin desks with a slating surface that is

> favorable for writing print but may not be conducive for a child using a hand flame as it needs a flat surface, (LR8)

The physical arrangement of the classroom does not consider CWVI in a way that the class is congested with seats with no clear arrangement.

Classroom layout can significantly impact the accessibility and ease movement for pupils with visual impairments and allows learners to freely interact with their peers thus promoting inclusiveness and social interactions.

A well-designed classroom can promote their independence and participation in learning. This agrees with The Blind Children's Resource Center (2019) which advocates for flexible seating arrangements. Providing flexible seating options accommodates learners' individual needs. For instance, adjustable desks and chairs can cater to varying comfort and mobility requirements.

There is inadequate assistive technology at the school. (LR4) said that "*I do not have a white cane because my parents cannot afford to buy it*"

Another participant said:

> If I had a white cane, it would assist me to move alone, do you know being with a helper all the time, you find you have no privacy at all is quite annoying, (LR1).

A white cane is helpful as it assists CWVI to manipulate the environment but it is expensive for us to afford, we normally depend on well-wishers to get white canes. The absence of these assistive technologies impedes the students' ability to navigate the physical space effectively, hindering their overall educational experience.

This is in line with Brown and Jones, (2019) and Harrison and Sutherland, (2016) who highlight the challenges faced by these students in navigating school compounds and accessing educational materials when essential assistive devices are lacking.

The absence of these assistive technologies impedes the students' ability to navigate the physical space effectively, hindering their overall educational experience. This is in line with several Studies such as (Brown and Jones, 2019; Harrison and Sutherland, 2016) who highlighted the challenges faced by these students in navigating school compounds and accessing educational materials when essential assistive devices are lacking.

According to other participants (6) the presence of ramps that are gently sloped, handrails and landmarks at the school can make learners feel comfortable while at school. One participant (LR3) said: "*One time I missed a step while going to the class and I fell down where I got injury on the face and my front teeth got out*"

Another participant (LR5) said: "*if the environment can be modified with contrasting colours around especially on different doorways or put tactile tag"*

The environment is not modified to suit the learner's limitation one can hardly see any provision of CWVI. There is need for environmental modification to enable learners navigate around the school easily thus increasing learners' inclusiveness.

Making infrastructure enhancements, such as improving the accessibility of the physical environment, can facilitate safe and independent mobility for students with visual impairments. Physical accessibility is a fundamental requirement for inclusive education. Schools should have ramps, tactile pathways, and well-designed classrooms to accommodate visually impaired students, UNESCO (2017). Creating an environment that caters to diverse needs can enhance participation and retention.

Friendly peers to CWVI where one participant (TR1) said: "*Peers are friendly to CWVI even thou sometimes children with VI do not cooperate but you find their peers are cooperative and patient with them."*

Another participant (LR8) said: *"since we depend much on our peers to access the print content, we have to befriend them as we cannot do much without them."*

The peers are friendly and are very patient with them as sometimes CWVI tend not to cooperate but they do not give up the support. Pairing students with visual impairments with peer buddies who can assist with mobility and provide social support has been shown to positively impact their retention.

Peer support programs can significantly impact the retention of visually impaired students. Florian and Spratt (2013), observes creating opportunities for interaction between visually impaired and sighted peers fosters social integration and reduces isolation. Sensitization campaigns within schools can raise awareness and promote positive attitudes toward inclusivity.

The study findings indicate creation of an environment that accommodates learners' diverse needs, acoustic considerations infrastructure enhancement, peer support, use of assistive devices classroom lay out are strategies that can be implemented to minimize the challenges

related to the physical environment that might affect the retention of learners with visual impairment.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.0 Introduction

The study aimed to explore the challenges faced by learners with visual impairment in the physical learning environment, identify school-based factors influencing retention, examine the roles of parents in supporting learners with visual impairment, and assess the measures schools have implemented to address these challenges. The objectives were comprehensively addressed with data collected through the perspectives of 13 diverse participants, including visually impaired learners, out-of-school children, teachers, and a head teacher. The data collected formed the contents of findings presented in the previous chapter. This chapter therefore presents the summary, conclusions and recommendations of the study. Towards the end, the areas of further study are suggested.

5.1 Summary of the Findings

The study focused on identifying barriers and solutions related to the impact of the physical environment to retention and learning of visually impaired learners in schools. The findings are grouped into several key areas, based on the study's objectives and presented in the following paragraphs respectively.

5.1.1 Environmental Barriers Hindering the Retention of Learners with Visual Impairment

The study highlights several environmental barriers that hinder the retention of learners with visual impairments in school. A significant issue identified by all participants is the lack of designated parking areas, which leads to haphazard parking by staff and students. This chaotic parking situation creates safety hazards, increasing the risk of accidents and falls for visually impaired learners. The absence of reserved parking spaces emphasizes the need for better organization to ensure the safety and accessibility of the school environment for all students, particularly those with visual impairments.

Another major challenge is the uneven and obstacle-filled playground, identified by 10 participants. Potholes, tree logs, and blocks make it difficult for visually impaired students to navigate safely, and in some cases, this has led to students dropping out due to the lack of assistance in overcoming these obstacles. The need for accessible, leveled playgrounds is

critical to providing a safer and more welcoming environment for visually impaired students to engage in physical activities and socialize with their peers.

Additionally, the absence of appropriate learning aids was a concern for 10 participants, as visually impaired students struggle to access educational materials. The lack of Braille books, audio resources, and tactile diagrams hinders students' ability to fully engage with the curriculum. Similarly, the shortage of assistive devices, such as white canes, was raised by 9 participants. The high cost of these devices and the reliance on donations limit their availability, further restricting the students' ability to navigate the school environment and fully participate in learning activities.

Other challenges highlighted by the study include unclear pathways, which become slippery and hazardous during rainy weather, and the lack of ramps, which pose risks for falls and injuries. Classroom design issues, such as poorly arranged desks and obstacles like columns, were also identified as barriers to free movement and interaction. These findings underscore the importance of improving physical infrastructure and providing assistive tools to create a more inclusive and accessible environment that supports the educational needs and well-being of visually impaired learners.

5.1.2. School-Based Factors Influencing Retention

The study highlights several school-based factors influencing the retention of children with visual impairments (CWVI) and strategies to reduce dropout rates. A key element identified by participants was the need for robust school policies to ensure the safety and welfare of visually impaired students. Twelve out of the 13 participants emphasized the importance of clear regulations, such as designated parking spaces and informative signs, to mitigate potential risks. These policies were viewed as essential in creating a safe and inclusive school environment for CWVI, helping to address various barriers that may hinder their retention.

Teacher attitudes were another critical factor in student retention. Ten participants expressed concerns about negative attitudes from teachers, particularly those untrained in special education. Positive attitudes from teachers were seen as crucial in fostering an inclusive and supportive learning environment. The study emphasized the importance of training teachers in inclusive education practices, as their attitudes and actions significantly impact the well-being and academic success of CWVI.

The availability of Braille materials and accessible resources was also identified as essential for the retention of visually impaired students. Ten participants noted that having assignments in Braille allowed CWVI to learn alongside their sighted peers. However, the study also pointed to challenges such as dependency on peers for reading tasks, suggesting that individualized support and more accessible resources are necessary for independent learning. Furthermore, modifications to the curriculum, especially in subjects that involve visual content, were emphasized as essential for ensuring equal learning opportunities for CWVI.

Parents were found to play a vital role in supporting the retention of visually impaired students. Many participants highlighted the proactive involvement of parents, particularly in overcoming challenges such as transportation and resource acquisition. Parents were noted for their active engagement in networking, advocating for their children's education, and providing emotional support. Regular communication with educators, guidance and counseling, and home-based support were also identified as crucial factors in enhancing the educational experience and ensuring that CWVI remain in school.

5.1.3. Measures to Overcome Physical Environment Challenges

The study revealed various strategies implemented by schools to address the factors influencing the retention of learners with visual impairments (VI). One of the primary strategies involved ensuring the availability of accessible learning materials, such as Braille, audio, and digital formats, to enable independent learning. Ten out of 13 participants highlighted the importance of financial support for these materials, which would allow visually impaired students to engage effectively with their education. Additionally, family engagement was emphasized as crucial, with 11 participants acknowledging the active role of some parents in supporting their children's education, although a lack of parental involvement could negatively affect a student's sense of belonging.

Acoustic considerations within the school environment were also addressed as an important factor in improving retention. Nine participants appreciated efforts to modify classrooms to minimize echoes, creating a better auditory learning environment for students who rely on sound cues. The study reinforced the need for well-lit classrooms to ensure that students with remaining vision can benefit from optimal lighting conditions, helping them to learn more effectively. Moreover, two participants highlighted the importance of specialized training for

teachers, particularly in special needs education, to ensure they have the skills necessary to support CWVI in an inclusive learning environment.

The study also identified several physical environment challenges that hindered the retention of visually impaired learners. A major concern for all participants was the lack of designated parking spaces for staff and students, which led to safety risks as visually impaired students navigated through a cluttered school compound. Additionally, the presence of muddy potholes, uneven surfaces, and unclear pathways posed serious obstacles to students' mobility, making it difficult for them to move independently. These issues were particularly pronounced during the rainy season, and the study stressed the importance of clear, accessible, and well-maintained pathways to ensure the safety and participation of CWVI in school activities.

In response to these challenges, schools implemented several measures to improve the physical environment and support retention. Classroom layouts were adjusted to create more comfortable seating arrangements and flexible desks that cater to the unique needs of visually impaired learners. The inclusion of ramps, handrails, and tactile pathways within school infrastructure was also emphasized, ensuring better accessibility for students. Additionally, peer support was recognized as a valuable strategy, with visually impaired students receiving mobility assistance and social support from sighted peers. The study called for increased accessibility to assistive devices, like white canes, and suggested sensitization campaigns to foster inclusivity and improve attitudes toward students with visual impairments.

5.2 Conclusions

Based on the findings, it can be concluded that:

Firstly, the investigation into the school's physical learning environment revealed significant insights. The study identified the presence of inclusive infrastructure and facilities tailored to accommodate learners with visual impairment, including accessible classrooms, tactile learning materials, and assistive technologies. These physical provisions were found to positively impact the retention of learners.

Secondly, the exploration of school-based factors shed light on various aspects influencing the retention of learners with visual impairment. Factors such as the availability of trained teachers and support staff, inclusive teaching methods, individualized learning plans, and supportive school policies were found to play pivotal roles in enhancing retention rates. Additionally, the involvement of parents and the wider community in advocating for the needs of learners with visual impairment was identified as crucial for fostering a supportive learning environment.

Lastly, based on the findings, several measures have been suggested to address the factors contributing to low retention rates among children with visual impairment. These measures include the continuous training and professional development of teachers and support staff on inclusive education practices, the implementation of inclusive curriculum adaptations, the provision of specialized support services, and the promotion of parental and community involvement in supporting learners with visual impairment. By implementing these measures, schools can create more inclusive and supportive environments that facilitate the retention of learners with visual impairment throughout the primary school cycle.

Summarily, the study highlights the importance of an inclusive educational environment, addressing both physical and social barriers to support the retention and academic success of visually impaired learners. Measures such as the improvement of physical infrastructure, the introduction of assistive technologies, family involvement, and teacher training are essential in ensuring that visually impaired students can navigate school physical environments independently and successful.

5.3 Recommendations

The study investigated the factors contributing to the retention of learners with visual impairment in completing the primary school cycle, focusing on a specific primary school in Kabale Municipality.

The school's physical infrastructure should be improved as it plays a crucial role in supporting the retention of these learners. For instance, the presence of accessible facilities such as ramps, handrails, and tactile signage enhanced their mobility and independence within the school premises.

Additionally, consideration should be put on availing assistive devices like braille books and magnifiers to facilitate their access to educational materials and contributed to a conducive learning environment.

Furthermore, the study aimed to identify school-based factors influencing the retention of learners with visual impairment. Results indicated that the presence of

Training of Special Needs teachers and supporting staff positively can impact the retention rates.

These professionals provide personalized assistance and adapted teaching methods to cater to the unique needs of learners with visual impairment, thereby enhancing their learning experience and retention).

Additionally, the implementation of inclusive teaching practices and the provision of individualized education plans (IEPs) to promote the academic and social inclusion of these learners, leading to higher retention rates

In line with the third objective, the study proposed several measures to overcome the factors contributing to low retention rates among children with visual impairment. Firstly, it recommended increasing investment in accessible infrastructure and assistive technologies to create an inclusive learning environment. This includes constructing barrier-free facilities and providing specialized equipment such as screen readers and braille displays

Collaborative partnerships between schools, community organizations, and government agencies were also suggested to provide holistic support and resources for these learners, thereby promoting their retention and academic success.

5.4 Suggested areas for further study.

To build upon the insights gained from this research, future studies could explore the following areas; -

1. **Evaluating the Integration of Assistive Technologies in the Physical Environment for Visual Impairment**:

   Explore how assistive technologies, such as screen readers, braille displays, and auditory signaling devices, can be seamlessly integrated into classroom settings to enhance the learning experiences of students with visual impairment. This research could focus on the practicality, accessibility, and effectiveness of these technologies in supporting students' independence and engagement in the learning process.

2. **Examining the Role of Educator Training in Promoting an Inclusive Learning Environment for Visual Impairment**:

   Investigate the correlation between comprehensive educator training on visual impairment and the creation of inclusive physical environments that support academic success for students with visual disabilities. This study would examine how educators' knowledge of assistive strategies, environmental adaptations, and individualized support impacts the retention and progress of learners with visual impairments.

3. **Understanding the Relationship Between Physical Environment and Social Interaction for Learners with Visual Impairment**:

   Research how various elements of the physical classroom environment, such as spatial layout, furniture design, and mobility aids, influence social interactions between learners with visual impairments and their sighted peers. This study could explore how thoughtful environmental design fosters an inclusive atmosphere that encourages peer collaboration, reduces isolation, and improves social inclusion.

4. **Assessing the Mental Health and Well-Being of Learners with Visual Impairment in Different Educational Environments**:

Investigate the impact of the physical learning environment on the mental health and emotional well-being of learners with visual impairments. This study would analyze how factors like environmental design, sensory stimulation, and accessibility influence students' self-esteem, stress levels, and overall psychological health, with a focus on promoting a supportive and empowering space for these learners.

These areas offer important insights that could help improve educational settings for students with visual impairments, fostering a more inclusive and supportive learning environment.

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Appendix 1: Interview guide for the Head Teacher.

I am Ahumuza Charity, a student at Kyambogo University. I am pursuing Masters in Special Needs Education. Research being part of the requirement, I am carrying out a study entitled; "Retention of learners with visual impairment to completion of the primary school cycle: Acase of one Primary School in Kabale Municipality." As a head teacher of this school, you have been identified as one of the potential participants who may give information that will lead to the completion of this study. Kindly answer please give in your honest answers to the questions the question below and your r responses will be treated confidentiality and will be used for the purpose of this study.

Confirmation of acceptance

I have read and understood the purpose of the study and I hereby consent to participate

Signature..... Date: .....

A. Bio data

1. Age _____
2. Sex; Male _____ Female _____

For how long have you been a head teacher in this school?

B The school physical environmental barriers that hinder the retention of learners with visual impairment

a. How would you describe the current school physical learning environment both in class and outside the class towards the education of learners with visual impairment?
b. In your opinion, how could the physical learning environment be improved to better support learners with visual impairment?
c. What specific changes have been put in place to support the educational needs of learners with visual impairment?

C School-Based Factors Influencing Retention:

a. From your perspective, what do you think can be by or in the school the school to reduce dropping out of children with visual impairment from school hence influence the retention?

b. what roles have parents played in the school to improve retention rates for these learners?

D Measures to Overcome Factors Leading to Low Retention:

a. What strategies has your school put in place to address the factors leading to retention of learners with visual impairment?

b. What are the challenges related to the physical environment that you think might affect the retention of learners with visual impairment?

c. What do you thing the school can do to minimize the above challenges?

Thank you for your participation

Appendix 1I: Interview guide for Special Needs Teachers

I am Ahumuza Charity, a student at Kyambogo University. I am pursuing Masters in Special Needs Education. Research being part of the requirement, I am carrying out a study entitled; "Retention of learners with visual impairment to completion of the primary school cycle: Acase of one Primary School in Kabale Municipality." Having taught these learners in this school, you have been identified as one of the potential participants who may give information that will lead to the completion of this study. Kindly answer please give in your honest answers to the questions the question below and your r responses will be treated confidentiality and will be used for the purpose of this study.

Confirmation of acceptance

I have read and understood the purpose of the study and I hereby consent to participate

Signature..... Date: .....

B. Bio data

1. Age _____
2. Sex; Male _____ Female _____

For how long have you been teaching in this school?

B School Physical Learning Environment:

d. How would you describe the current school physical learning environment both in class and outside the class towards the education of learners with visual impairment?

e. In your opinion, how could the physical learning environment be improved to better support learners with visual impairment?

f. What specific changes have been put in place to support the educational needs of learners with visual impairment?

C School-Based Factors Influencing Retention:

a. From your perspective, what do you think can be by or in the school the school to reduce dropping out of children with visual impairment from school hence influence the retention?

b. what roles have parents played in the school to improve retention rates for these learners?

D Measures to Overcome Factors Leading to Low Retention:

a. What strategies has your school put in place to address the factors leading to retention of learners with visual impairment?

b. What are the challenges related to the physical environment that you think might affect the retention of learners with visual impairment?

c. What do you thing the school can do to minimize the above challenges?

Thank you for your participation

Appendix 1II: Interview guide for pupils with visual impairment.

I am Ahumuza Charity, a student at Kyambogo University. I am pursuing Masters in Special Needs Education. Research being part of the requirement, I am carrying out a study entitled; "Retention of learners with visual impairment to completion of the primary school cycle: Acase of one Primary School in Kabale Municipality." Having taught these learners in this school, you have been identified as one of the potential participants who may give information that will lead to the completion of this study. Kindly answer please give in your honest answers to the questions the question below and your r responses will be treated confidentiality and will be used for the purpose of this study.

Confirmation of acceptance

I have read and understood the purpose of the study and I hereby consent to participate

Signature..... Date: .....

C. Bio data

1. Age _____
2. Sex; Male _____ Female _____
3. Class .....

B School Physical Learning Environment:

a) How would you describe the current school physical learning environment both in class and outside the class towards the education of learners with visual impairment?
b) In your opinion, how could the physical learning environment be improved to better support you in your education?
c) What specific changes have been put in place to support your educational needs as a learner with visual impairment?

C School-Based Factors Influencing Retention:

a. From your perspective, what do you think can be by or in the school to reduce dropping out of children with visual impairment from school hence influence your retention?

b. what roles have parents played in the school to improve your retention rates?

D Measures to Overcome Factors Leading to Low Retention:

a. What strategies has your school put in place to address the factors leading to your retention in school?

b. What are the challenges related to the physical environment that you think might affect your retention?

c. What do you thing the school can do to minimize the above challenges?

Thank you for your participation

Appendix IV: Interview guide for pupils with visual impairment who dropped out of school.

I am Ahumuza Charity, a student at Kyambogo University. I am pursuing Masters in Special Needs Education. Research being part of the requirement, I am carrying out a study entitled; "Retention of learners with visual impairment to completion of the primary school cycle: Acase of one Primary School in Kabale Municipality." Having taught these learners in this school, you have been identified as one of the potential participants who may give information that will lead to the completion of this study. Kindly answer please give in your honest answers to the questions the question below and your r responses will be treated confidentiality and will be used for the purpose of this study.

Confirmation of acceptance

I have read and understood the purpose of the study and I hereby consent to participate

Signature..... Date: .....

D. Bio data

1. Age _____
2. Sex; Male _____ Female _____
3. Which class were you in before leaving school?

d) How would you describe the then school physical learning environment both in class and outside the class towards the education of learners with visual impairment?

e) In your opinion, how would the physical learning environment be improved to better support you in your education?

f) What specific changes were put in place to support your educational needs as a learner with visual impairment?

C School-Based Factors Influencing Retention:

a. From your perspective, what do you think can be by or in the school to reduce dropping out of children with visual impairment from school hence influence your retention?

b. What roles would parents play in the school to improve your retention rates?

D Measures to Overcome Factors Leading to Low Retention:

a. What strategies did your school put in place to address the factors leading to your retention in school?

b. What are the challenges related to the physical environment that might affect your retention?

c. What do you think the school can do to minimize the above challenges?

Thank you for your participation

APPENDIX V: OBSERVATION GUIDE

Observable items	Availability	Comment
The chairs and desks designed with the consideration of CWVI.	The chairs do not put in consideration of the needs CWVI	The desks have got a slating surface that does not support CWVI when writing with a hand flame
The classrooms having facilities such as sound, ventilation and light	Yes	The classrooms are well ventilated with enough lighting and acoustic free.
The classroom well decorated and attractive to children with visual impairment	None	The classroom is not attractive as there is no work in Braille for CWVI.
Are children with visual impairment moving easily around classroom	Not	The seats are not well spaced for easy movement of CWVI.
The classroom having enough space for group work arrangement	Not	The classrooms are congested as there are no space that allow interaction between pupils.
The sitting position of the learners with visual impairment being comfortable	Not	The twin desks used in class are not easily movable and makes CWVI not comfortable.
Sighted learners assisting learners with visual impairment in directing and describing new classroom arrangements	Yes	The sighted learners do assist CWVI while moving around and reading for them.
Physical compound leveled to favor learners with visual impairment	Not	The physical compound is not leveled. Many pot holes are seen in the compound

APPENDICE VI: INTRODUCTIORY LETTER

THE HEADTEACHER,

HORNBY HIGH SCHOOL,

P.O BOX 92,

KABALE.

Dear sir,

RE: INTRODUCTORY LETTER FOR M/S AHUMUZA CHARITY.

The above-mentioned person is a student in the department of Special Needs Studies, Kyambogo University. He registered to pursue a course leading to the award of Master of Special Needs Education. As a part of the course requirement, he is expected to carry out and submit a report.

The purpose of the letter, therefore is to introduce her and to request you to permit her to collect data for his research from your school.

I look forward to your support.

Thank you.

……..……

Head of Department.

APPENDICE VII: INTRODUCTORY LETTER

THE CHAIRMAN

LOCAL COUNCIL 1

KABALE.

Dear sir,

RE: INTRODUCTORY LETTER FOR M/S AHUMUZA CHARITY.

The above-mentioned person is a student in the department of Special Needs Studies, Kyambogo University. He registered to pursue a course leading to the award of Master of Special Needs Education. As a part of the course requirement, he is expected to carry out and submit a report.

The purpose of the letter, therefore is to introduce her and to request you to permit her to collect data for his research from your school.

I look forward to your support.

Thank you.

.....

Head of Department.

APPENDIX VIII: PARTICIPANTS' CONSENT FORM

Am an undergraduate at the Kyambogo University pursuing masters in Special Needs education under a research study; "Retention of Learners with visual impairment to completion of primary cycle at Hornby high school (J) in Kabale Municipality." Kindly assist me in the below provided questions. Your response give will be treated confidentially please give in your honest answers to the questions and there don't write/mention your name.