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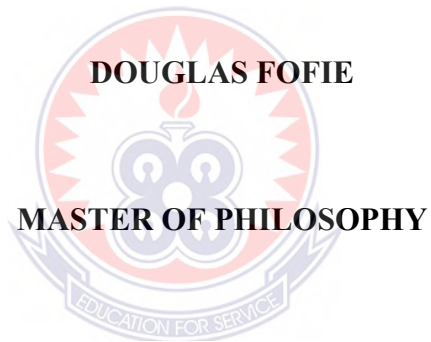
TEACHING LEARNERS WITH VISUAL IMPAIRMENTS IN INCLUSIVE SCHOOLS IN THE KWABRE EAST MUNICIPALITY, GHANA

DOUGLAS FOFIE

MASTER OF PHILOSOPHY

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TEACHING LEARNERS WITH VISUAL IMPAIRMENTS IN INCLUSIVE SCHOOLS IN THE KWABRE EAST MUNICIPALITY, GHANA

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**A thesis in the Department of Special Education
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Master of Philosophy
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AUGUST, 2022

DECLARATION

Candidate's Declaration

I, **DUOGLAS FOFIE**, hereby declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

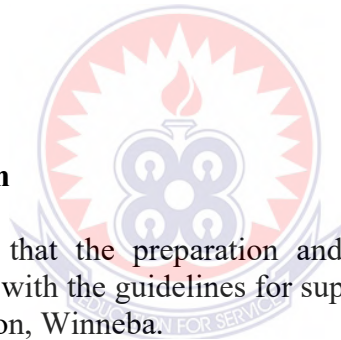Signature: …………………..……………

Date………………………..….………….

Supervisor's Declaration

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.

Supervisor's Name: **DR. AWINI ADAM**

Signature: ………………..……………

Date………………………..….………….

DEDICATION

To Asuo Noble Fofie, Mensah Junior Fofie, Barimah Yaw Fofie, and Maame Akua Attah Fofie.

ACKNOWLEDGEMENT

In a bid to undertake this study, I relied on the services of many people, without whose assistance the work would not have been successful. I wish to recognize and acknowledge my indebtedness to Dr. Awini Adam of the Department of Special Education of the University of Education, Winneba, who, as my principal supervisor, painstakingly read through the original manuscript and offered valuable suggestions.

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Finally, I would like to thank my family and friends for all the love and support they have shown me during this process. I thank you all.
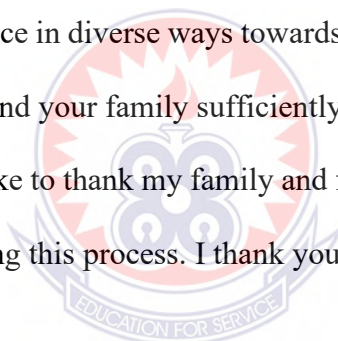
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LIST OF ABBREVIATIONS

ADL   –   Activities of Daily Living

EFA   –   Education for All

GES   –   Ghana Education Service

GSS   –   Ghana Statistical Service

IDEA   –   Individuals with Disability Act

IEP   –   Individual Educational Plan

LVIs   –   Learners with visual impairments

MPhil   –   Master of Philosophy

PWDs   –   Persons with disabilities

UEW   –   University of Education, Winneba

UN   –   United Nations

UNESCO   –   United Nations Educational Scientific and Cultural Organizations

UREC   –   University Research Ethics Committee

VI   –   Visual impairments

WHO   –   World health Organization

ABSTRACT

The purpose of this study was to examine the challenges regular teachers face in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality. The study was quantitative, and a descriptive cross-sectional design was adopted. The sample size was 327, and the respondents were teachers. A systematic sampling technique was used in this study. The data was collected using a closed-ended questionnaire. The data was analyzed using STATA software version 14.0. Findings were presented using frequencies, means, standard deviation, chi-square, and the relative importance index. Results from the study showed that regular teachers face pedagogical challenges, material resource challenges, and assessment challenges in teaching learners with visual impairments. The study further found an association between age, years of teaching experience, and whether a respondent studied SPED. The study therefore recommends that the Kwabre East Municipal Education Directorate conduct periodic in-service training and free refresher courses for teachers who are already in the field since this will help them acquire skills to better position them to teach learners with visual impairments. Again, a high number of special education coordinators and specialists should be sent to the Kwabre East Municipality to support special education in the municipality. This will help to bridge the inadequate special education expertise gap and provide support and guidance to regular teachers in the municipality.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

This study examines how regular teachers in inclusive classrooms teach learners with visual impairments and the challenges they face. According to the Individuals with Disability Act [IDEA] (2004) and the Ministry of Education (2014), the term "visual impairments" (VI) refers to a condition that significantly perturbs vision in such a way that, even with correction, it detrimentally affects a child's educational performance. Ocloo (2011) also said that visual impairments are reduced vision caused by eye diseases, accidents, or eye conditions present at birth. The effects that visual impairments has on children can be huge. Visual impairments can interfere with the development of learning, mobility, and social growth and adjustment. For this reason, people living with visual impairments present unique educational needs that are best addressed early in life (Paul, 2014). Learners with visual impairments therefore need to be educated in an inclusive class and are supposed to enjoy the good intentions of Education for All (EFA). EFA is a strategy by the United Nations Educational, Scientific, and Cultural Organizations (UNESCO) to ensure the provision of equal and quality education to all children, notwithstanding their socio-economic and cultural background, ethnicity, or disability condition. Ghana is one of the leading nations that has endorsed the Salamanca Declaration (1994) and other important United Nations (UN) treaties that fight for the rights of children with disabilities, including those who have visual impairments (VI), to receive an education in inclusive environments (Ministry of Education, 2013). Despite endorsing this document, nonetheless, inclusive education for children with disabilities appears to be very difficult when it comes to teaching children and its implementation. Although the introduction of EFA has

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increased the number of learners with disabilities and, for that matter, learners with visual impairments in many countries, Paul (2014) continued, there is no assurance that all children are gaining positive results from the educational system. This is due to the fact that some teachers working in schools lack the basics of dealing with pupils who have learning difficulties and are therefore unable to provide these learners with effective training (Paul, 2014).

Meanwhile, Sacks and Silverman (1998) said that teaching learners with visual impairments needs a teacher with knowledge of how a loss of vision can affect the individual's learning process. Visual information can be very vital in assisting learners with visual impairments to observe and deduce what is happening in the environment. That is, teaching learners with visual impairments requires specialized teaching methods and equipment to promote learning.

Despite the many benefits of inclusive education, teaching learners with vision impairments in inclusive classrooms and schools presents several difficulties for teachers. A study by Annie, Ndhlovu, and Kasonde-Ng'andu (2015) established seven main challenges teachers face in teaching learners with visual impairments. These encompassed difficulties in communicating what is being taught to learners with visual impairments, particularly elucidating abstract concepts and information in pictorial form and through diagrams on the board. Again, teachers have difficulty modifying or wording questions to suit the learning needs of learners with visual impairments. Specifically, they have difficulty streamlining questions so that learners with visual impairments can understand the questions. Furthermore, teachers stated that learners with visual impairments failed to understand what was being discussed and had difficulty articulating themselves. Another challenge was teachers' failures to comprehend learners with visual impairments and teach them effectively, hence leaving them to learn from their friends. Additionally, teachers could not discover appropriate

teaching methods to ensure that learners with visual impairments learn better and perform well academically.

Similarly, Lewis and Bagree (2013), for example, established that teachers were unable to use appropriate teaching methods to teach learners with visual impairments. Again, the next challenge relates to reading Braille and the failure of teachers to prepare questions and answers in Braille while observing learners' progress and work. Finally, the challenge identified by teachers was the difficulty of preparing enough questions in order to make each learner with a visual impairments contribute to the teaching and learning process.

Lewis and Bagree (2013) opined that there is a global shortage of teachers, especially those who are sufficiently trained and motivated to include children with disabilities (and children from other marginalized groups) in regular schools. These difficulties can thwart classroom participation and performance among learners with visual impairments. There are few teachers who are adequately competent and motivated to contain children with disabilities (Kumar et al., 2001). Stefanic and Norman (1996), cited in Gyan-Barimah (2018), noted that many teachers and college educators have insignificant or no direct experience in teaching learners with visual impairments and frequently hold conventional views of what they can and cannot do. Nonetheless, inclusion is vital for achieving Education for All goals and bringing the millions of presently left-out children into education (Lewis and Bagree, 2013).

According to M'kabira (2020), the attrition rate of teachers and the seeming low performance are caused by elements such as challenging work assignments, insufficient resources, isolation, role conflict, and reality shock. It is significant to remember that teachers of learners with visual impairments face similar difficulties. As a result, the difficulties teachers face when instructing learners with visual impairments are more likely to be evident given their disability, which affects their performance. If inclusive

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education is to be favored and used as a teaching method, learners with visual impairments in the Kwabre East Municipality must receive the proper attention. In this municipality, regular teachers instruct learners with visual impairments in the same manner as their sighted counterparts. This is a result of the teachers' lack of the abilities and knowledge required to manage this group of learners. Ineffective teachers result from their failure to instruct learners with visual impairments using the proper pedagogy or methodologies. For instance, Serpell and Jere-Folotiya (2011) emphasized the problem of creating a child-centered pedagogy capable of successfully educating all children, even those who have significant disadvantages and disabilities. Also, teachers find it difficult to use appropriate instructional materials and resources that will suit the learning needs of this group of learners. Finally, teachers find it extremely difficult to use the right approaches, assessment techniques, and procedures to assess these learners and place them in schools and classrooms where they can learn based on their disabilities.

As a result, the learners' academic performance suffered, and some even stopped attending school. According to Capper, Rodriguez, and McKinney (2010), learners with impairments have poor results in terms of academic performance, degree completion, and employment. As a result, the study aims to investigate the difficulties educators have when instructing learners with visual impairments in the inclusive schools in the Kwabre East Municipality.

1.1 Statement of the Problem

There has been a significant transformation in education, chiefly to achieve accessibility and education for all. Brown and Beamish (2012) are of the view that these changes seen in the twenty-first century have focused much on inclusion. According to Mboshi (2008), inclusive education is a widely accepted concept for achieving equity,

fairness, and high-quality education for all children. The focus has been on children who have been denied mainstream education due to some impairments and other characteristics, including visual impairments. Some people have hailed this inclusive strategy as a lifeline for the implementation of educational and psychosocial assistance for learners with visual impairments (Mboshi, 2008). Numerous elements of inclusive education contribute to its success in achieving its goal. Ajuwom (2008), for instance, noted that inclusion in neighborhood schools, the attitude of zero rejection, the absence of special classes or schools, cooperative teaching, the provision of special education assistance for general education, and other factors are traits of inclusive education. Brown and Beamish (2012) further stated that recent changes in education have, in one way or another, affected the modern-day teacher. This is because teaching learners with visual impairments in the same classroom as learners without visual impairments means that the teacher in question must be a qualified specialist. They must also have practical experience in the field of teaching learners with visual impairments (Spungin & Ferrell, 2000).

According to authors like Holbrook and Koenig (2000) and Suvak (2004), it takes a lot of time to teach learners with visual impairments while also giving regular classroom teachers specialized support in order for them to successfully carry out their mandate to educate learners with visual impairments in regular classrooms. Teachers must also have the flexibility to adjust to responsibilities involving curriculum preparation, specialized instruction, and assessments (Bishop, 2004; Spungin & Ferrell, 2000). However, a study done in Kenya by Mutia (2020) revealed that teachers lack the necessary skills to teach learners with visual impairments in an inclusive environment. Echeita, Sandoval, and Lopez (2010) also found that schools lacked the necessary teaching and learning tools to improve learners with visual impairments' academic performance in inclusive classrooms.

Again, Darkwa (2011) found from his studies that braille books and raised diagrams were not readily available for use by teachers to enhance the learner's learning. These make the task of the regular teacher in teaching learners with visual impairments in a regular classroom setting daunting and might affect the education of learners with visual impairments (Sikanku, 2018). Many studies have focused on general challenges (Bornman and Rose, 2017) and inadequate support services faced by inclusive education (Oppong-Boateng, 2020), with little focus on specific challenges. The researcher, through interaction with some parents whose children have visual impairments in the municipality, has realized that parents are not happy about their children's academic performance.

Again, in the researcher's interaction with some teachers, it was reported that they had inadequate skills or knowledge in special education to be able to support learners with visual impairments in inclusive classrooms. This subject has also been discussed in various parent-teacher association (PTA) meetings. The researcher therefore finds it expedient to conduct this research to evaluate pedagogical challenges, ascertain instructional material resource challenges teachers face in teaching learners with visual impairments, examine the challenges regular teachers face in assessing the academic performance of learners with visual impairments, and identify measures to put in place to solve the challenges faced by teachers in teaching learners with visual impairments in the Kwabre East Municipality.

1.2 Purpose of the Study

This study sought to examine the challenges faced by regular teachers in teaching learners with visual impairmwents schools in the Kwabre East Municipality.

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1.3 Research Objectives

This study was designed to address the following objectives:

1. To evaluate the pedagogical challenges teachers, face in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality.

2. To ascertain the instructional material resource challenges teachers' face in teaching learners with visual impairments in inclusive schools in the Kwabre East municipality.

3. To examine the challenges regular teachers, face in assessing learners with visual impairments academic performance in inclusive schools in the Kwabre East Municipality.

4. To identify measures to put in place to solve the challenges faced by teachers in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality.

1.4 Research Questions

To achieve the aims of the study, certain pertinent questions need to be answered. For this reason, the following research questions were raised:

1. What pedagogical challenges do regular teachers face in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality?

2. What are the instructional materials and resource challenges faced by regular teachers in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality?

3. What are the challenges faced by regular teachers in assessing learners with visual impairments in inclusive schools in the Kwabre East Municipality?

4. What measures can be put in place to address the challenges faced by regular teachers in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality?

1.5 Significance of the Study

It is envisaged that this study will reveal the pedagogical challenges regular teachers face in teaching learners with visual impairments in inclusive classrooms in the Kwabre East Municipality. This will help curriculum designers and policymakers think more critically about how to modify the curriculum to better meet the requirements of teachers working with learners with visual impairments in inclusive classrooms, thus helping to mitigate the challenges teachers face as far as pedagogy is concerned. The study would also show the material and resource challenges regular teachers face while teaching learners with visual impairments. With this finding, the ministry responsible for education, the Ghana Education Service, and parents will be informed on what resources are urgently needed and in what quantity in order to solve the problem. Knowing this, all stakeholders would devise means to solve this challenge.

The study would again reveal the challenges regular teachers face while assessing the academic performance of learners with visual impairments in inclusive classrooms. Knowing this challenge, the special education division of the Ghana Education Service could organize in-service training to equip regular teachers in the municipality on how to properly assess the academic performance of learners with visual impairments. Moreover, the study would inquire from respondents about the ways in which these challenges could be addressed. This will make information readily available to every stakeholder who has an interest in addressing the challenges revealed by the study in the Kwabre East Municipality.

Finally, the results of this study will be useful to academics and researchers since they might serve as a starting point for additional research on the subject and cover aspects that this study was unable to cover.

1.6 Delimitation of the Study

The study is delimited to teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality. It specifically examined pedagogical challenges, material resource challenges, challenges with assessment of learners' academic performance, and measures to address these challenges. These variables are seen as the key indicators that inform the successful teaching of learners with visual impairments in inclusive classrooms.

1.7 Limitations of the Study

The study was conducted precisely in Kwabre East Municipality, one of the forty-three (43) districts in the Ashanti region, where the findings may not be enough for generalization.

Again, appointments were made with teachers for the data collection exercise and term examination for public basic schools in the Kwabre East Municipality. This made getting teachers to respond to the questionnaires very stressful and difficult, as the researcher was left with no choice but to obey all instructions from the respondents. The researcher had to go to the extent of marking exam scripts for some teachers to compensate for time lost as teachers filled in the questionnaires.

However, despite the stated challenges, the data was successfully retrieved and did not affect the research process or findings.

1.8 Operational Definition of Terms

Regular Teachers: Teachers who teach sighted learners in regular classrooms.

Visual impairments: This is a broad word used to describe the condition in which people experience eye issues. He can either be blind or have impaired vision.

Braille is a set of embossed signs made up of combinations of six dots that have been organized and numbered.

Inclusive education: This is the type of education that ensures education for all learners, regardless of gender, religious background, race, or disability status. In this case, inclusion involves disability for learners with visual problems.

Teaching and learning resources: they are the resources required by teachers and learners to effectively teach or learn in the classroom.

Pedagogy: This is a teaching strategy that is employed by any teacher in the classroom.

1.9 Organization of the Study

In line with the in-house style of the UEW, this study is organized into six chapters as follows: Chapter one constitutes the introduction, which discusses the background to the study, the statement of the problem, the purpose of the study, research objectives, and research questions. Chapter one continues with the significance of the study, the delimitation and limitations of the study, and the operational definition of terms used in the study.

The second chapter presents the literature relevant to the nature of this study. This chapter highlights a review of relevant literature related to the problem under investigation that supports the challenges regular teachers face in teaching learners with visual impairments in inclusive classrooms.

Chapter three provides a thorough look into the research methodology used in the study. It highlights the research design, population, sample size, sampling

technique, research instruments, validity and reliability, pilot study, data collection procedure, methods used in data analysis, and ethical considerations.

Chapter four covers the findings. In this chapter, the findings of the study have been presented in frequency tables, mainly in means and standard deviation. Again, P-values showing associations between variables and the demographic characteristics of respondents have been presented.

In chapter five, the findings of the study are discussed in line with the research questions. The findings are linked to previous studies and indicate where they agree with or conflict with other studies. Chapter six provides a summary of the findings and conclusions drawn from them.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter reviews published works, including articles, journals, dissertations, and peer reviews, from experts on the challenges teachers face in teaching learners with visual impairments. The chapter has been organized under the following strands:

➢ Theoretical framework;

➢ Conceptual framework;

➢ Overview of visual impairments Pedagogical challenges faced by regular teachers in teaching learners with visual impairments

➢ Instructional material resource challenges teachers face in teaching learners with visual impairments in inclusive schools; and

➢ Measures to put in place to solve the challenges faced by teachers in teaching learners with visual impairments.
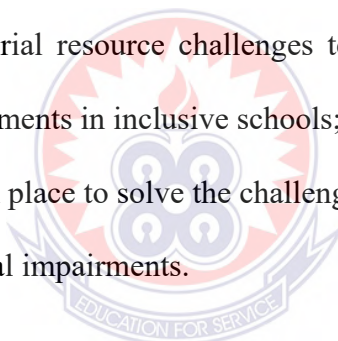
2.1 Theoretical Framework

The study used Rosemarie Garland-Thomson's "misfits" theory, which she created in 2011, to comprehend the difficulties teachers' encounter when instructing learners with visual impairments in inclusive schools in Ghana's Kwabre East municipality. According to Garland-Thomson (2011), an encounter occurs when two things come together in either harmony or disjunction. She used shapes to demonstrate how two forms fit together when they correspond to one another. A misfit, on the other hand, refers to a relationship between two things that is inconsistent, such as a square peg in a round hole (Garland-Thomson, 2011). She claims that the difficulty with a misfit originates not in either of the two objects but rather in their juxtaposition, in the

awkward attempt to fit them together (Garland-Thomson, 2011). Utilizing it to address disability, according to her theory, a person's impairment is not determined by their experiences with it at a particular moment or place, meaning that disability develops because of a person's interactions with their environment. This argument, according to the researcher, is applicable to the current study because, by failing to recognize learners' disabilities and requirements, teachers may unintentionally breed misfits in their classrooms.

Based on the research questions set for this study, which are: a) What pedagogical techniques are employed by regular teachers in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality? Teachers may create a misfit for learners with visual impairments in their classrooms when they lack techniques for teaching learners with visual impairments. This misfit may also be created because many teachers in an inclusive setting might not be special educators. Learners with disabilities have different needs and require different approaches and methods of teaching. This means that a "one size fits all" approach will not benefit learners with visual impairments. But if teachers are special educators and have pedagogical techniques for teaching these learners, they will create a fit in the classroom irrespective of the learners' impairments. b) What instructional materials and resources are available for regular teachers to use in teaching learners with visual impairments in inclusive schools in Kwabre East Municipality? A fit can be created when teachers are provided with all the materials they require for learners with visual impairments. There will be a place for all in the classroom. And the opposite will hold. With research question c), what techniques are employed by regular teachers for assessing learners with visual impairments in inclusive schools in the Kwabre East Municipality? A mismatch can occur when there is insufficient knowledge of assessment methods. This theory was adopted for the study based on the above.

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This study was also informed by the normalization theory postulated by Wolf Wolfensberger (1980). This involves accepting people with disabilities and offering them the same conditions as are offered to other citizens. It involves providing normal conditions of life-housing, schooling, employment, exercise, recreation, and freedom of choice. This includes "the dignity of risk", rather than putting emphasis on "protection". A significant obstacle in developing community support has been ignorance and resistance on the part of "atypically developed" community members who have been taught by our culture that "those people" are somehow fundamentally different and flawed and that it is in everyone's best interest if they are removed from society (Wilmshurst and Brue, 2005).

Part of the normalization process has been returning people to the community and supporting them in attaining as "normal" a life as possible (Wolfensberger, 1980). People with disabilities are not to be viewed as sick, ill, abnormal, subhuman, or unformed, but as people who require significant support in certain (but not all) areas of their lives (Ndurumo, 1993). This comes with the understanding that all people require support at certain times or in certain areas of their lives, but that most people acquire this support informally or through socially acceptable avenues.

The normalization theory was found relevant for this study because, for a long time, learners with visual impairments have been segregated from their sighted peers and taught in "schools for the blind" rather than inclusive schools. Since this study focuses on the challenges teachers face in teaching learners with visual impairments in inclusive schools, there is a need to assess these challenges to help in providing the necessary support, thereby normalizing the learning environment for learners with visual impairments to equally participate.

2.2 Conceptual Framework

The study focused on the challenges regular teachers face in teaching learners with disabilities in the Kwabre East Municipality. This framework contains three main variables: pedagogical challenges, material resource challenges, and challenges in assessing the academic performance of learners with visual impairments as the independent variables, and the overall challenges teachers face in teaching learners with visual impairments as the dependent variable. The study posits that pedagogical challenges, material resource challenges, and challenges in assessing the academic performance of learners with visual impairments will have a negative impact on the academic performance of learners with visual impairments in the Kwabre East Municipality.
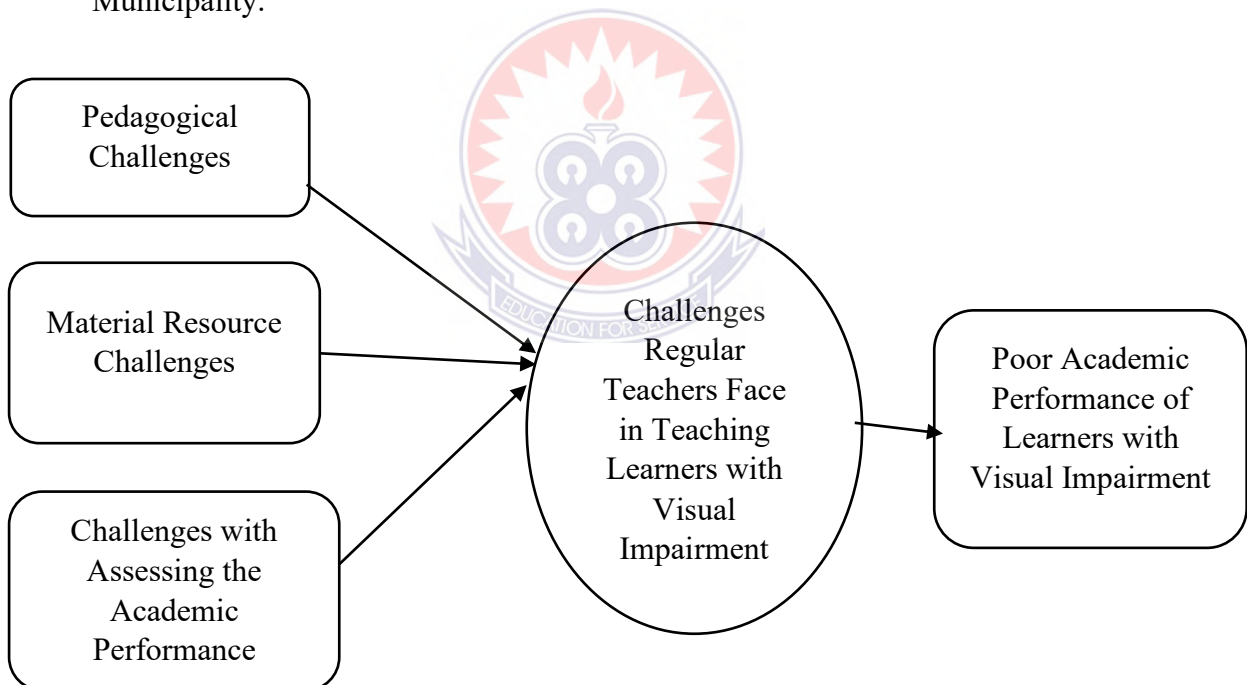
Figure 2.1: Conceptual Framework

2.3 Overview of Visual Impairments

There are several definitions for the word "visual impairments". It is also known as vision impairment or vision loss. According to the WHO (2015), it is a vision impairment that results in issues that cannot be resolved with standard methods, such as glasses. This implies that an individual may not be classified as having a visual

impairments if their condition can be corrected with a glass. The WHO added that some people with visual impairments might still be classified as such because they lack access to glasses or contact lenses (WHO, 2015). According to Maberley, Hollands, Chuo, Tam, Konkal, Roesch, Veselinovic, Witzigmann, and Bassett (2006), if one's best corrected visual acuity is less than 20/40 or 20/60, they are said to have visual impairments. According to Pintanel, Gomes, and Xavier (2013), a more thorough definition of visual impairments includes any type of organic hindrance connected to visual disorders that impairs vision's ability to work as it should. Once present, this impairment may cause a person's ability to see completely to disappear. It can occur with or without the perception of light and can be inherited or acquired for several reasons, including syphilis, retinopathy, congenital glaucoma, cataracts, or glaucoma. For instance, in the USA, the Individuals with Disabilities Act (IDEA) (2004) defines visual impairments in the context of education as a condition that impairs vision to such an extent that, even with correction, it negatively impacts a child's academic achievement (Individuals with Disability Act, 2004).

According to Khanna, Murthy, Giridhar, Krishnaiah, Pant, Palamaner, Subash Shantha, Chakrabarti, Gilbert, and Rao (2013), visual impairments is linked to higher mortality and is rated sixth in terms of the global burden of disease. Globally, 285 million people were projected to have visual impairments in 2010; of these, 39 million were blind and 246 million had poor vision (Keeffe & Resnikoff, 2019). Currently, there are at least 2.2 billion vision impairments worldwide, of which at least 1 billion could have been avoided or haven't been addressed (WHO, 2019). Around 90% of people with visual impairments reside in low-income areas (WHO, 2014). According to studies, those who live in rural areas are more vulnerable to visual impairments and blindness (Rim, Nam, Choi, Lee, and Lee, 2014). Globally, there is a serious issue with

child blindness because an estimated 1.4 million children under the age of 15 will be blind for a very long time.

Additionally, more than 12 million kids between the ages of 5 and 15 have uncorrected refractive defects, which are vision impairments that are difficult to diagnose and treat with glasses, contact lenses, or refractive surgery (Hallemani et al., 2014). According to WHO estimates, 0.7% of children worldwide are blind or have limited vision. According to studies by Salomo, Mitsuhiro, and Belfort (2009) and Datta, Bhardwaj, and Patrikar (2009), the prevalence of visual impairments in at least one eye among primary school learners in rural areas is 10.2% and 5.9%, respectively. In Ethiopia, 6% of all blindness cases in children are unacceptably high (Berhane, Worku, & Bejiga, 2006).

Numerous researchers who have researched the causes of visual impairments have identified uncorrected refractive error as the primary cause of vision impairment (Keeffe & Resnikoff, 2019; Pascolini & Mariotti, 2012). Globally, cataracts (33%), glaucoma (2%), and uncorrected refractive errors (43% each) are the three main causes of visual impairments (WHO, 2012).

However, according to current studies, cataracts are the main cause of blindness worldwide (Liu, Wilkins, Kim, Malyugin, & Mehta 2017). According to Gilbert and Foster (2001), there are various regional variations in the etiology of childhood blindness. According to them, the availability of primary healthcare and eye care facilities, as well as socioeconomic development, play a significant role in these. Wedner, Ross, Balira, Kaji, and Foster (2000) identified refractive errors (REs), trachoma, and vitamin A deficiency as the three most common causes of visual impairments in sub-Saharan Africa. In a hospital-based study carried out in Ghana, it was found that cataract (39.05%) was the main cause of vision impairment, followed

by uncorrected refractive errors (21.60%), glaucoma (18.34%), diabetic retinopathy (5.33%), and other retinal illnesses (4.73%).

In Ghana, Ansah (2017) discovered cataract as the leading cause of visual impairments among patients in Juaben in a study of 132 patients. The other causes of visual impairments included uncorrected refractive errors (21.60%), glaucoma (18.34%), diabetic retinopathy (5.33%), other retinal diseases (4.73%), age-related macular degeneration (ARMD) (2.37%), corneal diseases (2.37%), hypertensive retinopathy (2.37%), optic neuropathy (1.48%), pan uveitis (1.48%), and other 4 patients (1.18%). The causes of blindness were glaucoma (64.91%), cataract (22.73%), ARMD (4.55%), and other retinal diseases (4.55%).

Visual impairments has a severe effect on mobility and affects the development of children. Regardless of the causes of visual impairments, Seland, Vingerling, Augood, Bentham, Chakravarthy, deJong, Rahu, Soubrane, Tomazzoli, Topouzis, and Fletcher (2011) believe it is associated with a reduced quality of life. Visual impairments have significant effects on the child and family and has an influence on the child's education, employment, personality, and social prospects (WHO, 2012). Carvalho, Monteiro, Rodrigues, Shiroma, and Amaral (2004) have also found that learners with low vision may have difficulties with reading and writing activities, even when they use optical aids (that magnify the image) and non-optical resources (material adaptation and changes in the environment).

Furthermore, learners with visual impairments have fewer natural learning experiences because they are unable to observe objects and interactions. The Saskatchewan Department of Education (2003) identified some areas of the learner with a disability that are affected. Concept development, interpersonal communication skills, living skills, mobility and orientation abilities, and academic growth are a few examples of these potential domains.

2.4 Pedagogical Challenges faced by Regular Teachers in Teaching Learners with Visual Impairments

The academic success of learners with visual impairments is heavily influenced by pedagogy. According to Porter, Smith, Timmons, Kelly, and Richler (2011) and Schoeman (2012), pedagogy has a key role in the academic success of children with special needs. In inclusive classrooms, it has been noticed that teachers who obtain training in cutting-edge teaching methods are more understanding and tolerant of the educational requirements of their learners (Porter, Smith, Timmons, Kelly, and Richler 2011). According to Schoeman (2012), one of the most important traits and responsibilities of tutors in special schools is the ability to identify disparities among learners with different needs and find mitigation strategies that create an environment that is enabling for all learners when delivering lessons. Curriculum and pedagogy work together to educate children with impairments.

Tanyi (2016) defined a curriculum as a course of study. The International Bureau of Education (IBE) (2008, p. 218) cites Braslavsky (2007), who claims that a curriculum is a dense and adaptable contract between society and teachers. According to Jonnaert, Etteyebi, and Opertti (2008), the curriculum needs to be dynamic and always evolving as new requirements and advancements in our society arise. The curriculum needs to be adaptable in this era of inclusive education to suit the requirements of all learners, regardless of their skills or impairments.

Basaran (2012) believes that children try to conceive of the world and make sense of it in the complex social environments in which they live, play, and learn. And it's thought that they view the environment and classroom activities considerably differently from others who don't have any impairments. To support this, academics like Milian and Pearson (2005) and Churton (2002) assert that the methods utilized to teach learners with visual impairments generally, as well as the theoretical

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presumptions that underlie such teaching or instruction, are intended to be quite dissimilar. In teaching learners with visual impairments, Donald, Lazarus, and Lolwana (2012) propose that learners should be allowed to participate in the process by doing some activity rather than passively listening. To achieve this, researchers propose some best practices for teaching learners with visual impairments.

2.4.1 Cooperative teaching and learning methods

Cooperative learning is "a form of learning in which learners work together to guarantee that all members in their groups have learned and assimilated the same content," according to Gawe, Jacobs, and Vakalisa (2011, p. 197). The definition goes on to say that it is "a successful teaching technique in which small teams, each with learners of different levels of aptitude, use a range of learning activities to deepen their comprehension of a subject" (Van Wyk, 2007:315). In their study of teachers' opinions on how cooperative learning functions as an instructional strategy in special education at both urban and suburban elementary schools in the United States, Jenkins, Antil, Wayne, and Vadasy (2003) found that respondents thought that cooperative learning benefits learners with special needs in a variety of ways, including a rise in self-esteem, supplying a secure learning environment, and higher success rates on assignments in the classroom, among other gains. (Jenkins, Antil, Wayne, and Vadasy, 2003).

According to the study's findings, teachers credited cooperative learning with learners' increased engagement, improved comprehension, and active learning. The study's results also showed that learners with special education needs gain higher self-esteem thanks to peer approval, better work, and more active involvement in class.

2.4.2 Inquiry-oriented, strategy-based

An inquiry-oriented strategy is a type of instruction in which a teacher actively guides learners' construction of knowledge and reasoning as they participate in the

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inquiry process (Rooks, 2009). Several authors, such as Fraser and Maguvhe (2008), Rooks and Marker (2009), and Lumadi and Maguvhe (2012), have investigated inquiry-oriented strategies for teaching learners with visual impairments, mostly in science subjects. Rooks and Marker (2009) identified the following as benefits of inquiry approaches for teachers and learners:

- ➢ Instruction is based on real-world tasks.

- ➢ Learners learn interdependence through small-group work.

- ➢ Teachers and learners publicly negotiate understanding of concepts.

- ➢ Learners and teachers publicly share ideas with classmates.

- ➢ Learners collaborate with outside experts, and responsibility for learning and teaching is shared. (p. 5).

2.4.3 The use of tactile representations

According to Cox and Dykes (2001), tactile media are items that are physically designed to allow readers who are blind or visually impaired to utilize their sense of touch to read. In addition, Cox and Dykes (2001) identified effective teaching strategies that could be used to teach learners with visual impairments in general education settings. These include materials that are tactile and kinesthetic; auditory learning assistance; different technological adaptations; and activities of daily living (Cox and Dykes, 2001).

According to Tobias (2017), delivering information to learners with visual impairments about items they interact with and utilize in daily life is best done via tactile and kinesthetic materials. Zebehazy & Wilton (2014) reported that their survey of teachers of learners with visual impairments revealed that 70% of them believed that employing tactile materials and print was important. According to study participants, tactile or printed images were useful for teaching concepts, and written descriptions

combined with tactile graphics were easier for learners with visual impairments to understand than written descriptions alone.

Salisbury (2008) suggests using tactile materials when understanding an idea that relies heavily on shapes and patterns. Tactile images or diagrams can be drawn on braille paper using a special mat and stylus. This produces a relief image or diagram that can be easily felt (UNESCO, 2001).

2.4.4 Multisensory teaching strategies

A multisensory teaching strategy is one that uses tactile, kinaesthetic, and auditory media to improve teaching and learning (Obaid, 2013). Coffield, Moseley, Hall, and Ecclestone (2004) go on to explain that because this method is thought to improve learning, it is thought to result in improved understanding when used with learners who have special educational needs. Tobias (2017) asserts that, particularly for learners with sensory impairments, learning resources that may be accessible by sight, hearing, or touch increase learner participation. Learning can be made richer and more varied for learners without sensory impairments since they can mix and match the channels via which they obtain the material.

2.4.5 The use of universal design for learning

Universal Design for Learning is a set of principles that guide the design of inclusive classroom instruction and accessible course materials (Centre for Applied Special Technology, 2011c). According to Morin (2014), information is frequently delivered in visual, aural, and hands-on methods when using the Universal Design for Learning approach, encouraging teachers to employ various exam forms, such as oral presentation.

According to this approach, group projects and different methods are used in presenting the materials to keep learners motivated. Gual, Puyuelo, and Lloveras (2011) presented findings from a pilot study conducted in Barcelona on assistive resources applied to an itinerary of learners with visual impairments. Positive results were found, with cognitive maps demonstrating the value of these products as teaching aids for people with visually impaired about their surroundings and navigating cities. The study by Gual, Puyuelo, and Lloveras concluded that teaching learners how to create tactile maps using 3D printing could be beneficial. The technique, in conjunction with verbal assistance, allowed the users to learn a route for visiting an accessible historical site, according to the results.

2.4.6 Assistive technology

Assistive technology (AT) is any item, piece of equipment, software, or product system that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities (Hauss, 2004; Kamei-Hannan, Howe, Herrera, & Erin, 2012). The use of audio-optical and assistive technologies with learners who have visual impairments has the potential to improve many learners' outcomes connected to academic teaching, according to writers like Mulloy, Gevarter, Hopkins, Sutherland, and Ramdoss (2014). Tobias (2014) said that assistive technologies and devices allow learners with visual impairments to take part in a variety of school-related activities by enhancing other senses or existing vision abilities.

Mulloy et al. (2014) conducted an extensive literature review on assistive technology. The purpose was to provide examples, explanations, research findings, and implications for the use of assistive technology with learners with visual impairments and blindness. The study found that assistive technology stimulates senses and abilities besides sight as well as improving users' vision. Once more, it was mentioned that

teaching learners with visual impairments can benefit from the use of proper assistive technology (Molloy et al., 2014).

Following a thorough examination of the research, Mitchell (2008, 2014) found several instructional techniques that are effective in the area of special and inclusive education. He gave the following examples: peer tutoring, reciprocal teaching, collaborative, self-regulated learning, assistive technology, and cooperative learning. According to Mitchell (2014), the opportunity to teach learners with visual impairments does not always imply that pupils should be given an acceptable amount of time, but rather that the learners with visual impairments should be given the opportunity to increase their knowledge. This means that teachers must possess the knowledge and tools necessary to effectively instruct learners who have visual impairments. Assistive technology, according to Hauss (2004), will not make an impairment go away or disappear, but it can minimize its effects, boost independence, enhance a person's attitude toward life, and enable learners with visual impairments to access their education.

Rule, Stefanich, Boody, and Peiffer (2011) explored how a year-funded project in a mid-western state of the USA that offered modified tools and instructional materials changed the perspectives of secondary science and math teachers toward learners. The authors also looked at how teachers accommodated learners with visual impairments in their instruction, as well as their attitudes and insights, reported difficulties, and success. Their survey results showed that teachers had successfully applied three teaching strategies: giving all learners in the class adaptable equipment; persuading the learners that the equipment was necessary; and including the class in comprehending and accepting the learners' impairments.

Teachers employed a variety of teaching strategies, including tactile models with Braille labels that allowed learners to build the elements of the atmosphere out of beads, noodles, glitter, puff paint, and foam. Manipulative materials were also used to illustrate the concept, using snap-together blocks to represent the quantities on a graph so that they could be handled. Learners translated this activity into Braille by using tactile tools to create a storyboard and solve the warm-up exercises at the beginning of class (Rule et al., 2011, p. 878). These researchers concluded that the respondents were actively thinking constructively about their instruction and actively enhancing their approaches to teaching all learners. Like this, Gronlund, Lim, and Larsson (2010) investigated the efficacy of the use of assistive technologies in inclusive education in Bangladesh and Tanzania, two developing nations. These researchers used case study and literature review techniques to collect their data. When teaching learners with visual impairments, Gronlund, Lim, and Larsson (2010) found that adopting assistive technologies had the advantage of cutting down on the amount of instructional time required to accomplish a set of learning objectives. This contrasts with the amount of instructional time needed to establish learning objectives without the use of assistive technology (Mwakyeja, 2013; Gronlund et al., 2010).

The investigation found several difficulties. Most of the assistive technology utilized for learners with visual impairments was found to be unfamiliar to most teachers. Additionally, white canes and low-tech assistive gadgets like slates, styluses, and Braillon sheets for manual writing were frequently employed. However, as Hauss (2004) and Gronlund et al. (2010) point out, there are several drawbacks and obstacles to assistive technology. For example, they emphasized that the recommended gadgets were frequently quite expensive, that resources were scarce, and that the equipment acquired necessitated additional costs for training.

Additionally, there was no support mechanism in place to demonstrate successful device use to each trainee. In addition, there were no professionals available to fix the equipment if it malfunctioned and required maintenance (Morris, Golinker, Bailey, & Moore, 1991).

2.4.7 Using questions and answers

Another useful alternative is to instruct and receive feedback from learners orally. A teacher of learners with visual impairments can record the oral responses given by a learner with visual impairments. Additionally, the learner's responses can be recorded on a recorder. However, a learner cannot evaluate the answers they have provided for potential modification in this manner. To establish a better technique to evaluate a learner with visual impairments, teachers of learners with visual impairments should be consulted before the exam is administered (Spungin, 2002, cited in Mwakyeja, 2013).

2.4.8 Adapting written text

As said earlier, adaptation to teaching materials and learning methods in the field of inclusive education is very important to help learners with visual impairments. For example, printed text can be adapted by increasing the font size, bolding the text, increasing contrast, adding color, and adjusting spaces between characters. Though this is important, it does not work for all learners with visual impairments. Mastropieri & Scruggs (2010) asserted that the magnitude of these adaptations depends solely on the severity of visual defects and the needs of the learner concerned. Due to this, Spungin (2002) advised that it is important to consult a specialist teacher on the preparation of materials prior to the lesson because different learners use different materials depending on the degree of their visual impairments. For a learner with low vision, it is good to provide a copy of notes that are written on the board or presented on a projector. A

specialized teacher for learners with visual impairments should help clarify the lesson for them and, if possible, should teach them before the main teaching session starts (Spungin, 2002). If a teacher is writing on the blackboard or using visual aids, it is important that he or she use large print on the blackboard or visual aids. In addition, a teacher may use colored chalk (UNESCO, 2001).

2.4.9 Addressing learners with visual impairments by their names and using sound

Ferrel (2002) discusses the significance of using pupils' names while speaking to them in the guide for teachers of learners with visual impairments. Mwakyeja (2013) and Niwagaba (2014) agree with the view, indicating that since learners with visual impairments cannot see, teachers should call their names first when they want to address a specific issue, ask questions, or give instructions so that the learner knows specifically to whom the teacher is talking. The use of learners' names during class presentations and group discussions should form an important part of teaching (Ferrel, 2000; Mwakyeja, 2013; & Niwagaba, 2014). Therefore, it is essential that teachers perform some or all of the following:

The teacher's voice must first be appealing. To be considered pleasant, the tone and pitch must be relaxed. The teacher's voice also needs to be interesting to listen to. Pitch, loudness, and speech rate are all crucial components of an engaging voice for pupils (Best, 1992, cited in Ocloo, 2011).

Third, a teacher should refrain from generalizing. Avoid using words like 'over here' or 'this and that' as much as you can because they make it difficult for learners to understand what a teacher is saying (Mastropieri & Scruggs, 2010).

Fourth, a teacher should read the notes out loud while writing them on the board or projecting them on the screen during class (Spongin, 2002, cited in Mwakyeja, 2013).

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Finally, whether addressing a specific learner, posing a question, or giving detailed instructions, teachers should say the learner's name first so that the learner is aware of who they are speaking to.

2.4.10 The need for collaboration when teaching learners with visual impairments

It is believed that while learning, learners have a range of capacities. Less talented learners will learn things from their more talented friends. Learners' cooperative learning has been shown to be effective in promoting academic success, a positive attitude toward the subject, and increasing social contact in an inclusive classroom (Mastropieri & Scruggs, 2010; Wade, 2000). Learners collaborate in small learning groups as part of cooperative group learning. This encourages pupils to assist one another with various assignments. Especially in mixed-ability groups, encouraging collaborative learning is a useful teaching method for children with visual impairments. Less developed countries, with their large class sizes, are especially important (Mitchell, 2008). To do this, UNESCO (2014) recommends pairing learners with visually impaired in larger classes with non-visually impaired peers who can help them organize their work, find the appropriate pages, and repeat the teacher's instructions.

Another area where collaboration is needed when teaching learners with visual impairments is between teachers and resource people. The 2007 research of the New Brunswick Association for Community Living (NBACL), which examined the systematic obstacles to adopting inclusive education in the classroom, found little evidence of teacher collaboration in inclusive classrooms. They also discovered that the rigidity of the curriculum, which prevented the teachers from collaborating, was to blame for this lack of cooperation. According to Mitchel's (2008) research, children are not evaluated based on their aptitude or their unique educational needs. This is a result of stringent curricular assessments. He goes on to say that normative evaluation is

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typically used with classes of learners who have visual impairments. In the majority of developing nations, this has been a significant barrier to the education of pupils with visual impairments.

2.4.11 Using expanded core curriculum

A special collection of knowledge and abilities required in particular by learners with visual impairments and blindness is known as the Expanded Core Curriculum (Miller, 2003). According to experts, the likelihood that children with visual impairments will have access to acceptable educational opportunities will increase if they receive competent instruction in both subject areas (AFB, 2012). The provision of qualified teachers who are proficient in both the general education curriculum and the ECC is a crucial element in ensuring that the prospects of learner achievement are maximized (McGinnity, Seymour-Ford, & Andries, 2004).

2.4.12 Other strategies teachers use to teach learners with visual impairments

Designing and implementing efficient management solutions for kids with blindness and visual impairments requires early identification and intervention (Gadagbui, 2013). To help learners with low vision use their vision effectively, Koenig (1996), referenced in Yalo, Indoshi, Agak, and Were (2010), proposed that early intervention in visual stimulation and subsequent training be implemented. According to Barraga (2007), who was mentioned by Yalo, Indoshi, Agak, and Ware (2010), low vision training increases visual efficiency. It is imperative that learners with low vision receive training in low-vision skills as soon as possible for them to improve their visual efficiency. Early intention in visual training will also equip learners with visual impairments with activities of daily living skills that will boost independence and self-worth.

2.4.12.1 Inadequate Lighting and the use of visual aids

With the use of specific equipment and illumination, learners with low vision can execute visual tasks nearly as well as a learner who is sighted. Depending on the child's level of vision, he or she will need a specific amount of light in the classroom to make learning effective. According to the Ministry of Education, Rwanda (2009), the amount of lighting required for a classroom depends on when the classes are held. It stated that three 15-watt CFL lights mounted at ceiling level or at the level of the underside of the trusses are needed in a typical classroom. There should be sufficient natural light with acceptable illumination levels as well as daylight. The use of glass windows or other alternatives should maximize the use of natural light. The Ministry of Education, Rwanda, (2009) further recommended that unobstructed window space be provided to get adequate light levels. Again, window openings should be evenly placed on both sides of the room to prevent dark corners. The importance of having good illumination on the desktop and chalkboard cannot be overstated.

2.4.12.2 Poor seating arrangement

According to Niwagamba (2014), inclusive schools have class sizes that are too large. Mutia (2020) also found that many classes in inclusive schools are large, and therefore, the learning process becomes rather challenging for the learners. According to Niwagamba (2014), learners with visual impairments have challenges that equate to four learners who are sighted, in addition to the challenges posed by a large class size. Mutia (2020) claims that most of the learners with visual impairments continue to have challenges even though they have strategic sitting positions in class. Yet researchers such as Gadagbui suggest that in a regular classroom, the type of disability, specifically the type of visual impairments, must be considered before seating the child (Gadagbui, 2013). The teacher, together with resource people, must make adequate efforts to place

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that child in a position in the classroom where the child has as much access to the blackboard as possible (Gadagbui, 2013). Again, the seat must be large enough and evenly spaced to allow for easy movement and to accommodate the equipment needed by learners with visual impairments.

2.4.12.3 Adapting reading materials for learners with visual impairments in inclusive classrooms

It's crucial to think about the quantity and quality of print used in addition to print size. The quality of the reading material is determined by the size, color, and contrast of the print on the paper, and must be the main factor. Prints can be made larger using a magnifying device, a low vision aid, or an expanding photocopier, but doing so can make the errors more noticeable, which can be detrimental. Contrast and clarity are crucial, and it's also important to avoid books with print that runs across the illustration because this can lead to confusion. Additionally, some learners with visual impairments might choose to place a card or ruler beneath the line they are reading. Gadagbui (2013) mentioned that reading windows can be especially helpful for kids who have trouble focusing on a word or line of print.

According to Barraga (1985, quoted in Yalo, Indoshi, Agak, and Ware, 2010), some learners with visual impairments can achieve significant visual efficiency by repeatedly observing visual elements that are brought very close to the eye or by using magnified materials. Children may only have a few experiences that inspire the most use of low vision if there is no encouragement and no organized activities to employ near vision. They will therefore continue to exhibit weak visual abilities and behaviors. Most children with low vision will find it challenging to read from the chalkboard. That is, to assist them, the teacher must speak and describe anything he or she is writing or doing that the class needs to know.

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For instance, when writing words on the chalkboard, the teacher should be bold and spell out the individual letters that make up the words. Children with limited vision will learn more easily because of this (Ocloo, 2011). Teachers of these children should be proficient in reading and writing Braille to address the needs of non-visual learners with severe visual impairments. These groups of learners with disabilities can also be taught how to use personal readers, computers, and standard typewriters. They can also learn writing, listening, and study skills; tactile dexterity; concept development; and routine exercises for practicing survival skills (Ocloo, 2011). Having productive conversations with the low-vision learner in class Ocloo (2011) cites Baine (1991) as saying that there are several techniques for teachers to effectively interact with a child who has limited vision. He suggested the following as a general idea:

Before starting an instruction or demonstration, teachers should make sure that the learners are paying attention. When a debate is started, the learner's name should be spoken, and the lights should be temporarily turned on and off. He added that when speaking to a pupil with low vision, the teacher should preferably stand with the light source behind them, such as a window, so that the light falls on their faces and upper bodies.

Also, he suggested that the teacher should get near learners who have vision impairments when giving directions or delivering demonstrations to the entire class. To prevent pupils from being mocked in front of other learners, it is vital to ask children with low vision in private. The learner may be asked to describe, explain, and illustrate what they have seen or heard.

Again, for learners who have low eyesight, the teacher can use lectures or lessons that have been recorded on tape.

Additionally, it is important to teach children with vision impairments how to take succinct notes wherever possible. The teacher should occasionally go over these

notes. The accuracy of the notes needs to be assessed. It's important to teach learners how to operate typewriters and computers without glancing at the keys. During teaching moments, it is best to employ tangible manipulatives that learners can touch and see. Steer clear of distributing printed sheets to learners that are faded or fuzzy.

It's important to use caution when presenting too many materials on a page. If needed, print in huge letters. On math worksheets, lots of room should be left over for calculations and responses. When writing letters and figures, pupils with visual impairments frequently use larger font sizes (p. 153–154).

2.5 Support Team for Educating Learners with Visual Impairments

In the long run, team building fosters enthusiasm, mutual support, and trust, which increases the effectiveness and efficiency of task completion. The foundation for learning is built via planning, preparation, and collaboration. The learner's social, emotional, communicative, and academic growth will be aided by establishing effective communication with other learners, parents, the community, and school staff. The Saskatchewan Department of Education, (2003) guide for teaching learners with visual impairments provides a list of professionals and their responsibilities in educating learners with visual impairments. Some of these professional and their roles are outlined below:

2.5.1 Duties of the classroom teacher in inclusive education setting

An effective educational program must be planned and carried out with the help of the classroom teacher. The classroom teacher: communicates the information gathered during the data collection stage; is aware of the expectations of the parents or guardians for their child's program; is aware of the needs of a learner with a visual impairments; plans and executes educational programs; modifies instructional methods and materials to allow enough time for the preparation of adapted resources; Develops

strategies for assessing and communicating learner progress.(Saskatchewan Education Department, 2003:12).

2.5.2 Special education/resource teacher

The teacher chosen to oversee the learner's program is typically the resource teacher. The resource teacher also provides diagnostic evaluation to determine learner strengths and areas for improvement; generates suggestions and ideas for program modification and/or adaptation; provides advice about materials and resources; the SLC orders materials from the Saskatchewan Learning Resource Centre and acts as a liaison between the school and the Resource Centre; plans and executes educational programs; create strategies for evaluating and communicating learner progress; maintains constant contact with parents and other teachers; and initiates and organizes support team meetings. (The Saskatchewan Department of Education, 2003:13).

2.5.3 School administrator

The support staff includes the administrator. He or she makes sure that program plans are created, carried out, and assessed. Given the needs of the learner, the administrator makes sure that support people, the proper materials, and in-service training are supplied as needed. Frequently, the administrator is the one who can make sure that team choices are carried out. The administrator performs a crucial leadership role and sets an excellent example by: admitting the learner to school; defending team decisions; participating in school activities with the learner; welcome parental participation; and supporting best practice. (The Saskatchewan Department of Education, 2003:13).

2.5.4 Teacher assistant

The primary responsibility of the teacher assistant is to support the teacher in the classroom so that she or he can present a lesson plan that meets the needs of every learner in the class, including those who have visual impairments. It is crucial to clarify the teaching assistant's responsibilities. The teacher assistant must be attentive to the learner's interactions with peers to foster these bonds and the innate support that peers can offer. Developing braille proficiency is a requirement for supporting learners with visually impaired who utilize braille as a reading medium. Other tasks may include: putting together braille, large print, audio, or tactile materials; facilitating the learner's use of optical and technological aids; adapting the environment to meet the learner's needs; acting as a scribe and transcriber of braille; assisting in the development of concepts and organizational and social skills; working individually with the learner to reinforce the specialized skills, such as orientation, mobility, and life skills; and serving as an intermediary between the learner and the environment. (The Saskatchewan Department of Education, 2003:14).

2.5.5 Educational consultant for the visually impaired

The role of the consultant is to respond to the needs of the teacher through the provision of assessment, consultation, and in-service. These services may include: assessment of the learner's functional vision, appropriate reading and writing media, appropriate technology, need for optical and non-optical devices, and the evaluation of reading skills; consultation regarding adapted materials, techniques for program planning and instruction, orientation and mobility, modification of the classroom environment, and strategies for inclusion; in-service on the inclusion of learners with visually impaired in the classroom; eye conditions, orientation, and mobility; braille literacy; and the social implications of a visual impairments; and Referral for related

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services such as orientation and mobility, instruction, and technology assessment (The Saskatchewan Department of Education, 2003:14).

2.5.6 Orientation and mobility specialist

Orientation and mobility specialists are trained to teach learners with visual impairments the concepts, skills, and techniques that enable them to travel safely and function efficiently in different conditions and situations in the environment. The more severe the visual impairments, the more orientation and mobility instruction will be needed. The range of techniques varies greatly, and the orientation and mobility specialist will determine how best to teach the learner (Saskatchewan Department of Education, 2003:14).

2.5.7 Teaching tips

Teachers of learners with visual impairments can use the instructional suggestions the Saskatchewan Department of Education included in the handbook. These tips are outlined below:

A program plan is usually developed on an annual basis by the learner's support team and is reviewed regularly. At the planning stage, if a learner with low vision requires enlarged texts, audiocassettes, or printed materials, they should be ordered or prepared ahead of time. Again, the teacher should talk while teaching since the learner may miss visual cues and written instructions.

Further, the teacher should stand near the learner with a visual impairments when doing demonstrations or using visual aids and verbalize notes as he writes on the board. If a learner cannot see or keep up with board work, provide him with an enlarged print copy or a scribe to write the notes using NCR (no carbon required) paper. Print may be easier to read than cursive writing. The teacher should also allow the learner to go up to the board or move the desk closer to view or copy the material. Extra time

should be given to the learner with a visual impairments since she or he will take longer to complete most tasks. The quantity of work required may be decreased. Examinations should be flexible enough to allow the learner to give oral answers and a scribe to write answers during the exam. Use tactile, concrete, and real-life materials as much as possible. This provides opportunities for kinesthetic and tactile learning.

Sufficient desktop and shelf space are needed to accommodate special materials. The learner will need to learn to organize his or her notes, desk, shelves, and locker. Color-coding notebooks and files may help. Maintaining organization should become the learner's responsibility. Learners with low vision must adhere to the same standards of discipline and behavior as other learners. Say, "Tell me what you see" rather than "Can you see this?" when checking if a learner can see specific visual material. Try to relate new learning to the learner's experiences and knowledge. This will help bridge gaps in learning. If a large volume of reading is required, consider having a teacher assistant or another learner read the material to the learner or obtain it on audio tape. (The Saskatchewan Department of Education, 2003:18–19).

Even though the aforementioned techniques are advised by professionals, learners with visual impairments cannot profit from them. As a result, Annie, Ndhlovu, and Kasonde-Ng'andu (2015) said teaching learners who are visually impaired is a challenge. The problem is a lack of appropriate teaching strategies for pupils with vision impairment (Annie et al., 2015). According to studies, using the same teaching methods for children with sight and learners with visual impairments led to poor academic performance in children with visual impairments (Sight Saver International, 2010). Learners with visual impairments do badly in class because of this problem, and as a result, they have lower education levels (Annie et al., 2015). Teachers have been mostly using non-participatory strategies, which are not effective in teaching (Morny, 2016).

Teachers are found to be lacking in some essential teaching methods that will assist learners with visual impairments in inclusive classrooms.

In their study on the current situation of inclusive education in Nepal, Tanzania, Vietnam, and Zambia, Lewis & Little (2007), as cited in Fraser (2008), revealed that teachers are not educated enough in sign language, use of braille materials, preparation of hearing aids, tactile diagrams, and maps, which are needed to adequately deliver on their task for learners with impairment in inclusive classrooms. Lewis and Little (2007) further found that the special education component teachers receive as part of their training is insufficient, which makes it a challenge to teach learners with disabilities, including those with visual impairments, in a regular classroom. Again, they found out that teachers do not have control over teaching methods and that examination systems hump their efforts to include all children, irrespective of their learning needs. Biddle (2005) showed that teachers lack the knowledge and expertise necessary to apply inclusive teaching strategies to learners with visual impairments. Another study by Miles (2003) found that teachers have trouble grasping the idea of inclusive education. This study was conducted in the Temeke district to explore appropriate and sustainable ways of building the capacity of key stakeholders in education to reflect, analyze, and document their experiences in promoting inclusive education.

Once more, research by Chhabra, Strivasta, and Strivasta (2010) indicated that a lack of preparation in inclusive education creates challenges for its implementation since it renders teachers unprepared or less accommodating to inclusive education. According to Burstein, Sears, Wilcoxen, Cabello, and Spagna (2004), teachers believe they lack the necessary skills to provide inclusive education. Additionally, scholars like Sharma, Forlin, Deppeler, and Yang (2013) and Singal (2005) assert that inadequate teacher preparation poses a significant obstacle to inclusive education in South Asian nations like India. In a similar vein, Simon, Echeita, Sandoval, and Lopez (2010) found

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that teachers lack sufficient knowledge about inclusion and how to instruct pupils with visual impairments in inclusive classrooms. Research suggests that for the social and academic progress of the learners to be understood, individual teachers require some level of training (Tsokova & Tarr 2012). Between teachers who have had inclusive training and those who do not have such training, the former expressed a more positive attitude towards inclusion (Lambe and Bones 2006). Insufficiently trained teachers slow down the rate of learning for pupils with visual impairments (Silberman, Bruce, & Nelson, 2004). It is the duty of teachers to provide specific instruction and support services for children with visual impairments, and this instruction must be sufficient to make up for the learner's lack of visual functionality. There are numerous obstacles that a learner with visually impaired may face that could hinder their academic and social development (Hatlen, 2005).

Making accommodations and adaptations to current situations pertaining to the teaching of learners with disabilities should be strongly encouraged. However, research indicates that the majority of general education course curricula lack accommodations for learners with visual impairments in the form of modified activities. For instance, Mutia (2020) said that teachers of learners with visual impairments have been subject to rigorous examinations, including challenges to the instructional materials they use. According to Operetti and Balolcazal (2008), a lot of the instructional materials were too simple and did not support most of the instructional technologies. Bray and Green (2004) added that improving and simplifying the teaching materials were crucial adaptation strategies for learners with visual impairments. This makes accessing the general school curriculum extremely difficult for learners with visual impairments (Obi & Mensah, 2005).

2.6 Material Resource Challenges Teachers Face in Teaching Learners with

   Visual Impairments in Inclusive Schools

Adopting inclusivity and keeping it up in practice has been observed to be a difficult task (Tirusew, 2005). According to Bornman and Rose (2017), inclusion struggles in South African schools due to a widespread lack of resources and assistance. Restructuring the educational environment and the additional expenditures associated with teacher training are two factors that make it challenging to implement inclusion. For instance, building staircases is more expensive than installing ramps and elevators in schools, and using assistive technology in the classroom as well as Braille readers and machines comes at an added cost (Oppong-Boateng, 2020). Certain logistics are required to implement inclusive education in a classroom in South Africa, including braille textbooks, assistive technology, and braille machines (Lomofsky & Lazarus, 2001). In contrast, inclusive classrooms are meant to accommodate the needs of children with disabilities, which ultimately differs from what is required of ordinary schools (Oliver & Reschly, 2010). Masuku (2010) came to the conclusion that the lack of suitable teaching and learning resources in Swaziland's schools indicates that the nation is not ready to adopt inclusive education.

In addition to the difficulties in implementing inclusive education, teachers, who play a vital role in doing so, have numerous difficulties in the regular classroom. For instance, Oppong-Boateng (2020), in her work on teachers' experiences with inclusive education in the Ashanti Region of Ghana, reported that teaching and learning resources, such as peripatetic services, support personnel (such as Braille transcribers), and resource teachers, are not always available. In a study, Bhatnagar and Das (2014) discovered that the lack of an inclusion policy and a shortage of qualified teachers and paraprofessionals were the main obstacles to the successful implementation of inclusive education, according to the teachers. They also concluded that regular teachers had

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difficulties because of a lack of resources (Bhatnagar & Das, 2014). Again, Sharma (2001) noted that principals, paraprofessional staff, and special education instructors were concerned about a lack of financing, resources, training, and instructional materials for the implementation of inclusive education. According to Osero (2015), most instructors in Kenya who answered the questionnaire stated that adopting inclusive education would be difficult since children with disabilities do not engage freely. According to Osero (2015), the greatest obstacle to inclusive education is a lack of teaching and learning facilities (16.3%). The respondents also listed indiscipline (15.9%), instructors' unfavorable attitudes (13.6%), and teachers' lack of expertise in special-needs education (12.3%) as additional factors. Other difficulties were noted, and they were listed in order of frequency: inclusion was time-consuming (8.9%); it makes it difficult to maintain class control (5.9%); disabled children have low self-esteem (5.4%); it becomes difficult to cover the curriculum (4.7%); heavy workload on the part of teachers (4.5%). Seventy-nine percent of respondents said that the current curriculum was not relevant to creating successful inclusive education, indicating that the curriculum will be difficult.

Regarding the challenges teachers encounter when instructing learners who have visual impairments, Darkwa (2011) discovered from his research that braille books and raised diagrams were not easily accessible for teachers to use to improve the learners' learning. He again stated that teachers who responded to the survey highlighted a lack of instructional tools for learners who have visual impairments, making it challenging to provide feedback to them on questions containing diagrams. In a study that examined the inclusion process for learners with visual impairments, Simon, Echeita, Sandoval, and Lopez (2010) found that schools lack the necessary teaching and learning resources to improve the learning of learners with visual impairments in

inclusive classrooms. The study also discovered that parents do not collaborate or participate in their children's educational affairs.

More than half (58.6%) of the respondents to Sikanku's study, Challenges in Teaching Pupils with Visual impairments in Inclusive Classrooms: The Experience of Ghanaian Teachers, did not possess the necessary braille abilities to support learners with visual impairments. Regarding the suitability of teaching and learning resources, 84.5 % of respondents said they lacked the tools necessary to instruct learners who are visually impaired. 93% of respondents who were asked if they had access to braille textbooks for learners with visual impairments said no. Sikanku (2018) also discovered that 70.15% of instructors do not receive professional training on modern pedagogies for teaching learners with visual impairments and that 73.7% of teachers are unable to provide learners with visual impairments with individualized attention.

In a study she performed in Nairobi, Kenya, titled "Difficulties facing teachers in teaching learners with visual impairments in an integrated school," Mugambi (2011) identified several specific difficulties teachers encounter when educating learners with visual impairments. A significant obstacle, according to many instructors (82.5%), is the administration's strong demand. Another 77.5% said that having inadequate facilities for visually impaired learners is a challenge. The next biggest problem, cited by 70% of the teachers, was a shortage of specialist materials. Only 35% of respondents thought allocating extra time was difficult.

The majority of Paul's responses (88%) agreed with the statement, "Teaching children with learning difficulties presents challenges due to a lack of resources." In the same study, 80% either strongly agreed or agreed to always experiencing the problem of textbook shortage; 52% disagreed or strongly disagreed that each learner has a reading textbook in their class. When asked if the performance of learners with visual impairments is hampered by the lack of suitable teaching and learning tools, 82% either

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strongly agreed or agreed, while another 52% felt that they had the necessary skills to manage learners with disabilities.

Another area of challenge is funding for specialized resources. To provide a level playing field for learners with visual impairments and their sighted peers to compete, they require books in appropriate media, materials, equipment, and technology (American Foundation for the Blind, 2005). The American Foundation for the Blind (2005) claimed that these specialized materials can be quite costly. Morny (2016) asserted that funds allocated by the government and relevant stakeholders to procure specialized resources to aid in the teaching of learners with visual impairments are insufficient, which poses a challenge to their positive academic performance. Unfortunately, there is often not enough funding to afford these specialized resources (American Foundation for the Blind, 2005). This therefore hinders teachers' regular classroom ability to deliver for the benefit of learners with visual impairments.

2.7 Challenges Regular Teachers face in Assessing Academic Performance Learners with Visual Impairments in Inclusive Schools

Just as accountability is very important in our lives, assessment of learners is also important to measure progress and make decisions to improve learners' performance. McLoughlin and Lewis (2005) defined assessment as the systematic procedures of gathering and identifying relevant educational information about a learner, with the primary goal of understanding the learner's specific needs. Assessment can be done before and after the course. Learners with visual impairments need to be assessed by teachers to understand a learner's background and knowledge (Mwakyeja, 2013). According to Spungin (2002), this kind of examination provides insight into a learner's academic abilities, learning preferences, and learning needs. Assessment can also be done by reading learners' academic records (Spungin, 2002). To achieve this, it

is important to include parents and peers because they play a significant role in providing crucial information about the learning of learners with visual impairments. This information enables teachers to decide whether a learner will need low vision aids, large print, magnifiers and lenses, braille, etc. (Mwakyeja, 2013). Other areas where this assessment helps are to provide information to the teacher on the learning style and needs of each learner and the pace at which children with visual impairments must be taught (Spungin, 2002). Authors such as McLoughlin and Lewis (2005) and Mitchell (2008) have opined that this assessment information about how a learner learns should be stipulated in the Individual Educational Plan (IEP).

After these assessments have been conducted and the teacher has made the necessary provisions for the learner with a visual impairments in an inclusive classroom, there is a need for the teacher to assess real academic progress. This is done through day-to-day assignments, classroom exercises, homework, and end-of-term examinations. The knowledge and ability of teachers to do this are therefore very important.

However, regular teachers in inclusive schools face numerous challenges in imparting knowledge to learners with special needs. In many schools, this assessment, which is important for learners' learning, is difficult to undertake in most cases (Johnsen, 2001; Smidt, 2009). This may go a long way toward negatively affecting their academic performance, as Blackorby, Chorost, Garza, and Guzman (2005) found that children with disabilities have poor academic performance compared to their non-disabled counterparts in the inclusive educational system. Among regular teachers who teach learners with visual impairments, several challenges have been identified in their quest to assess the academic performance of learners. The identified challenges in the study include inadequate teaching and learning materials, large class sizes, inadequate time for each period and in exams, and rigid tools of assessment.

2.7.1 Inadequate teaching and learning materials

According to Barrett (2007), effective teaching and learning environments are ones that allow a skilled teacher to deliver lessons at a level considerably above what is achievable when they are not sufficiently provided and exploited. However, it has been noted that most inclusive schools for the visually impaired and blind have mostly inadequate teaching and learning materials. It has been revealed that the government delays in providing these teaching and learning materials, and when finally provided, they are not enough for the entire period of their stay in the school (Acheampong, Atta-Osei, Nadutey, Bredu-Darkwa, & Boatong, 2021). For learners with visual impairments, a lack of or insufficient materials such as braille papers, styluses, and embossers make it difficult for regular teachers to assess their academic performance because that is the only way learners can reproduce what their assessors have taught them.
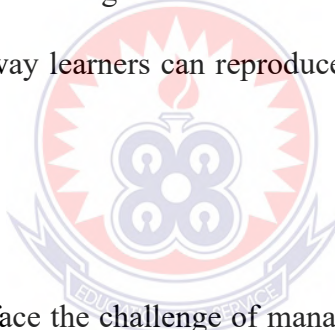
2.7.2 Large class size

Regular teachers face the challenge of managing larger classes in an inclusive educational setting. In teachers quest to assess the academic performance of learners in an inclusive classroom, they must attend to regular learners as well as learners with visual impairments. In the case where the class is large, these teachers are unable to have full coverage and supervision of learners considering their special needs. This is clear from a study that discovered that in developing nations with huge class sizes, teachers are unable to provide each learner with individualized attention in an inclusive learning environment (Mushoriwa, 2001). In a similar vein, Van Reusen, Schoho, and Barker (2000) noted that larger classrooms increase the responsibilities placed on the regular teacher while reiterating the worry that not all learners may receive adequate time or attention.

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2.7.3 Inadequate time for each period and in exams

Regular teachers also face the challenge of inadequate time for assessing learners with visual impairments in an inclusive classroom. This is because in assessing learners with visual impairments in an accessible format (brailling), it takes time for the learners to braille the questions and then braille again in answering braille questions. This may mean that their time period for that period may be over but they will not be able to finish, but the script must be taken from them and marked even though they will not be done. The scores they will get may not be a true reflection of their performance. According to Mwakyeja (2013), children with visual impairments could need more time to write down notes and teacher directions.

2.7.4 Rigid tools of assessment

Tools used to evaluate learners who are blind or visually impaired strictly adhere to the norms of sighted learners without considering their unique needs. This stems from a rigid curriculum that includes diagrams and some difficult components of chemistry and physics that are not applicable in brailling. So, in teachers quest to assess learners with visuals, they are left with no options, but this goes a long way to negatively affect their academic performance. According to Mitchell (2008), the tools used to assess learners in inclusive classrooms are rigid and not adapted. Learners are not evaluated based on their individual abilities and specific educational needs. A normative kind of assessment seems to dominate in these classes.

2.7.5 Lack of cooperation between resource staff and regular teacher

Regular teachers mostly rely on resourced staff to assess special needs learners, including the visually impaired, in an inclusive educational setting. This is because they can write what learners with visual impairments have written, so they can be marked by regular teachers. In the case where there is no collaboration and teamwork between

these two groups, it will create a challenging environment for the regular teachers. In cases where regular teachers are absent, similar problems may persist. According to a study, special education teachers generally need to come up with techniques for cooperating and sharing their knowledge and resources to save these millions of at-risk and struggling pupils from failing our educational system (Heward & Wood, 2006). This means special education educators in general must develop strategies for working together and sharing their knowledge and resources to prevent these millions of at-risk and struggling learners from becoming failures of our education system (Heward & Wood, 2006).

2.8 Measures to Solve the Challenges Faced by Teachers in Teaching Learners with Visual Impairments

Researchers have identified some challenges teachers face in teaching learners with visual impairments in an inclusive classroom. Based on their findings, others have offered recommendations. Melese (2018), for instance, evaluated instructors' methods, opportunities, and obstacles when instructing pupils with visual impairments in integrated primary schools and recommended that teachers who work with learners who have visual impairments receive training because it enables them to carry out their duties as required of them, and added that itinerant or special needs education-trained teachers be assigned to help teachers of learners with visual impairments in integrated classrooms.

In research by Hettiarachchi and Das (2014), a large number of the teachers reported having some training to assist learners with special educational needs, but all the respondents emphasized the necessity for ongoing professional development and training. In addition to these, general education teachers have stated that they lack the

necessary skills to accommodate pupils with special needs (Pugach & Florian, 2012; Bradshaw & Mundia, 2006; Subban & Sharma, 2005).

Sikanku (2018) suggested the following, considering her fascinating research on the difficulties experienced by Ghanaian teachers who work with learners who have visual impairments. According to Sikanku, the Ghanaian government should increase the availability of instructional resources, including textbooks with Braille and assistive technology, and basic Braille skills should also be taught to regular classroom teachers so they can help learners with visual impairments in their classes when the resource teachers are not present. To facilitate decision-making, she recommended that teachers involve parents in developing the Individualized Educational Program (IEP) for their learners. She further recommended that philanthropists and non-governmental organizations keep making donations to schools.

Tobias (2017) carried out research with the goal of analyzing teachers' perceptions of teaching and learning strategies among learners with visual impairments in special and inclusive schools. The study found some challenges, and as a result, the researcher recommended that support systems be put in place to support the teachers by equipping them with the necessary knowledge and skills. He further recommended that the government should allocate more money to special and inclusive schools so that they can buy equipment and materials for learners with visual impairments internal training. Increase stakeholder participation in decision-making at the regional, circuit, and governmental levels (include teachers with visual impairments).

Again, efforts should be made to distribute the additional curriculum to all schools and train the teachers on how to use it. At least two trainer's workshops should be organized for staff members to learn how to operate machines and equipment. Moreover, he added that there should be arrangements for specialized instruction on the creation of effective teaching and learning materials for the blind and concluded that

important stakeholders should raise awareness of the requirements of instructors and learners with vision impairments in the teaching profession, schools, and educational authorities.

Mwakyeja (2013) also discovered from teachers that there is a lack of teaching staff with adequate knowledge of inclusive education and special needs education, making it challenging for teachers to implement inclusive education, as well as inadequate teaching materials, a fixed curriculum, and other factors. This was discovered during his investigation into Tanzania's inclusive classrooms for pupils with vision impairments. As a result, he suggested that:

The government should act to ensure that teachers receive enough pre-service and in-service training about special needs education and inclusive education. They should receive instruction on how to modify the teaching and learning environments to make the classrooms inclusive of learners with special needs, including visual impairments in particular. In addition, he suggested that the government should give these inclusive schools, and in particular the pupils with vision impairments, enough teaching and learning resources. The availability of items like models, talking books, printers, photocopiers, and others.

Also, to enhance teaching and learning for learners with visual impairments in inclusive classrooms, he implored that the government should work with parents to supply equipment like Perking's braille, magnifying glasses, and lenses.

Finally, it is recommended that curriculum writers create a flexible curriculum that will allow for flexibility in instruction to ensure that the needs of learners with special needs, especially those with visual impairments, are fulfilled in inclusive classrooms.

2.9 Summary of the Literature Review

This chapter addressed earlier writings on the difficulty's teachers encounter while instructing learners with impairments. An overview of vision impairment was addressed. It also examined the top techniques recommended by specialists for instructing learners with visual impairments. It discussed the difficulties teachers encounter when instructing learners who have visual impairments. According to the literature, these difficulties included inadequate teaching and learning resources, a lack of teacher preparation, or insufficient teacher preparation for dealing with learners who are visually impaired. Almost all the studies focused on the challenge's teachers face with respect to teaching and learning materials, inadequate training, and others, with no emphasis on what kind of resources are inadequate. Once again, the pedagogical difficulties and unique issues teachers encounter when instructing learners with vision impairments have not received sufficient attention. Challenges regarding academic assessment were rarely seen in the literature. This research is therefore intended to fill the gaps of challenges teachers face in teaching learners with disabilities, with particular emphasis on the kind of resources that are inadequate, pedagogical challenges with their specifics, as well as challenges faced in assessing academic performance of learners with visual impairments.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

In this chapter, the researcher details all the procedures and methods adopted for assessing the challenges teachers face in teaching learners with visual impairments in the Kwabre East municipality. The following are described, and justifications are given when appropriate:

➢ Research paradigm

➢ Study approach

➢ Study design

➢ Study area

➢ Population

➢ Sample size

➢ Sampling techniques

➢ Data collection instrument

➢ Data collection procedure

➢ Data analysis as well as ethical considerations

3.1 Research Paradigm

All research is based on some underlying philosophical assumption about what constitute valid research and which method is appropriate for the development of knowledge in a given study. Research paradigm is an all-encompassing system of interrelated practice and thinking that define the nature enquiry along three dimensions – ontology, epistemology and methodology. Every researcher employs either the interpretivism, positivism or critical theory. This research used the positivism paradigm. Positivism assumes that reality exists independently of humans. It is not

mediated by our senses. When studying phenomenon, researchers come in as objective observers to study phenomena that exist independently of them and they do not affect or disturb what is being observed. This means that researchers do away with their emotions and feeling and tries to be objective as possible.

Positivist research often generates numerical data to represent and analyze features of social reality (Gall et al. 2003). This numeric data that are generated through experiments and surveys are subjected to descriptive or inferential statistical analysis. In assessing challenges teachers face, the study used closed-ended questionnaires with predetermined scales. This allowed the researcher to generate responses in the numerical form from the respondents. In line with positivist approach, results from this study were analyzed using statistical software which were described in frequency distribution tables. This also allowed the researcher to establish the association between the items and demographic variables of interest. The researcher chose the positivism paradigm to assess the challenges regular teachers face in teaching learners with visual impairments in inclusive schools because his epistemological position is objectivism. The researcher acknowledged that he does not face the challenges the respondents in the study faced and, as such, went in as an objective observer and not to influence the views of the respondents. Again, the researcher's ontological position is that of realism. The researcher understands that challenges regular teachers face in teaching learners with visual impairments exist naturally in the Kwabre East Municipality and that there is a cause-and-effect relationship between these challenges and the respondents. This paradigm helped establish this relationship.

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3.2 Study Approach

This study adopted the quantitative research approach exploring the challenges regular teachers face in teaching learners with visual impairments in inclusive classrooms. Quantitative research relies on the collection and analysis of numerical data to describe, explain, predict or control variables and phenomenon of interest. It is the objective process of gathering, evaluating, interpreting, and writing the findings of a study. Creswell states that quantitative research "utilize inquiry tactics such as experiments and surveys, and gather data on predetermined instruments that provide statistical data" (Creswell, 2003). In this study, information that yielded statistical data was collected from respondents on challenges teachers face in teaching learners with visual impairments. The predetermined questions allowed the researcher to assess the challenges teachers face in a more precise manner by enforcing uniformed responses upon the participants. Also, surveys usually produce high reliability by presenting all subjects with a standardized stimulus, thus observer subjectivity is greatly eliminated. The quantitative approach was used for this study because it aligns with the philosophical underpinning of this study, which is positivism. Again, the study used the quantitative approach because it allowed the researcher to acquire information on challenges regular teachers face in teaching learners with visual impairments in inclusive schools from a large number of respondents. Since the researcher was bound

by time, this approach helped collect the data within the shortest possible time. The quantitative approach helped to achieve the aims of the study because it allowed the study to be generalized due to the large number of respondents that were included. Also, the approach helped establish a causal relationship between respondents' demographic information and the challenges they face when teaching learners with visual impairments in inclusive schools.

3.3 Study Design

According to Mertler (2014) descriptive cross-sectional design is used to gather data at a particular point of time with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared or determining the relationships that exist between specific conditions. This allowed the researcher to examine the situation, as it exists in its current state. By doing this, the study did not aim to provide intervention to the challenges regular teachers face in teaching learners with visual impairments as in experimental studies. The design therefore helped in describing the current situation in teaching learners with visual impairments as it exists in the Kwabre East Municipality. Data was collected at one point in time and respondents were not followed up since the aim of this study was not to examine changes over a certain period of time. The researcher distanced himself from feelings which is part of qualitative research but relied on facts which was obtained through observation and measurement. By using this design, the researcher believes the main objective of the study thus assessing the challenges regular teachers face in teaching learners with visual impairments in inclusive classroom will be achieved because it is useful in describing the characteristics of a large population and consequently, making the results statically significant even when analysing multiple variables.

3.4 Study Area

Kwabre East Municipal was formerly Kwabre-Sekyere District. The western part was split to become the Afigya-Kwabre District on November 1, 2007 (effectively February 29, 2008), while the northern part was renamed Kwabre East District (Ghana Statistical Service 2013). It was then elevated to become a municipal on November 1st, 2017 (effectively March 17th, 2018) (Ghana Statistical Service 2013). The Akan term "Kwae a abre," which translates to "a rich, thick forest," is where the word "Kwabre" originates. The distance between Kumasi and Mamponteng, the municipal capital, is roughly 14.5 kilometers. The district's population was 115,556 as of the 2010 Population and Housing Census, with 47.7% being men. Its 123 square kilometers of land make up around 0.51 percent of the Ashanti Region's total land area (24,370.5 square kilometers).
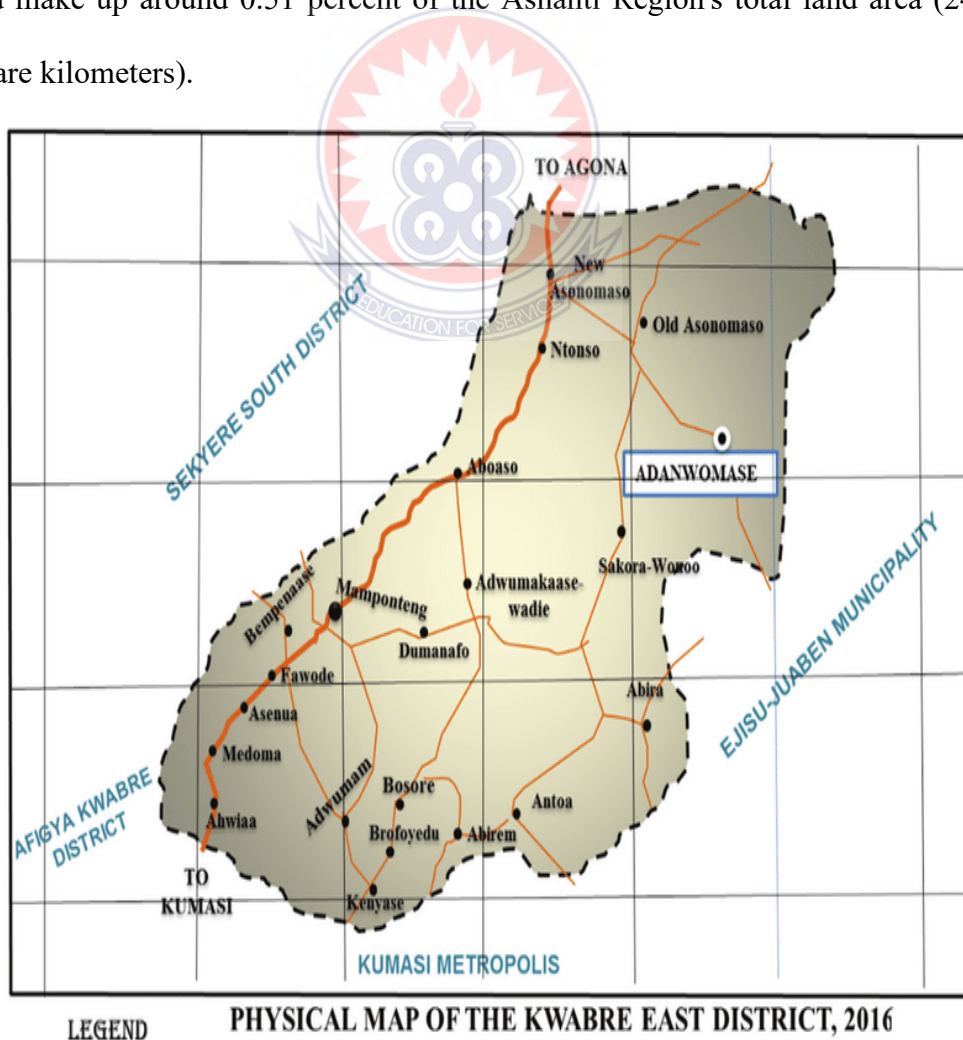
Figure 3.1: Map of Kwabre East Municipal

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The municipal shares boundaries to the north with Sekyere South District, Kumasi Metropolis to the south, Ejisu Juaben Municipal to the east, and Afigya-Kwabre District to the west. The main economic activities of the district are the weaving of kente cloth and wood carvings. This attracts lots of tourists to the municipality every year. The municipality has 143 public schools (primary and junior high combined) and 1799 teachers.

3.5 Population

The population always consists of the complete collection of factors in which the researcher is interested, regardless of the fundamental unit. Trochin (2000) claims that a population is simply the group that the researcher intends to generalize. Regular primary and junior high school teachers who work with learners with visual impairments in the Kwabre East Municipality made up the population of this study. Because they constitute a key part of the inclusive education policy's implementation, this population was deemed appropriate for the study. This population was deemed suitable for the study because they are major implementers of the inclusive education policy. They are in the classrooms and required to teach learners with visual impairments in their classes, and, as a result, they are the best people to comment on the challenges they face in teaching learners with visual impairments in an inclusive classroom. An inquiry at the Kwabre Municipal Education Office revealed that there are 143 primary and junior high schools in the municipality. This number, however, excludes private schools. Based on the information received from the municipal education directorate, there are a total of 1799 teachers in these schools.

3.6 Sample Size

When a population is relatively large, there are always resource constraints such as time and funds to interview every subject for the study, so a sample is taken (Osuala,

2005), since it is doubtful that researchers should be able to collect data from all cases to answer a research question (Taherdoost, 2016). With this in mind, it is advisable to work with a representative sample rather than administer questionnaires to the entire population, since a representative sample can be used to generalize about the entire population. As stated, there are 1799 teachers in the district. In order to get a representative sample from this population, the researcher used Slovin's formula for calculating sample size. The researcher used a confidence interval of 95%, which is the most widely used, and allowed a 5% margin of error, that is, 0.05. The formula is quoted as:

$$n = \frac{N}{(1+Ne^2)}$$

Where n= the sample

  N= Population

  e= the margin of error

n = ?, N= 1799, e= 0.05

Inserting the values in the formula, we have

n = 1799/ (1+1799*0.05^2)

Working this out produced a sample of **327**

3.7 Sampling Technique

The researcher used the systematic sampling method to minimize bias while selecting participants for the study. Every **nth** case following a random start is chosen in systematic sampling. All 143 schools (both primary and junior high) were listed to form the sample frame for the schools. The researcher decided to sort these schools in alphabetical order. After this, the researcher decided to visit schools in the order they appeared on the list. Teachers who were ready and willing to participate in the study

were contacted when the researcher visited the schools, and they were added to the study until the researcher met the estimated sample size for the study. In all, 40 schools were visited until the 327th respondent was reached. The list of schools and the number of respondents from each school are shown in the table below:

Table 1: List of Schools with the Number of Respondents

Schools	Population	Male	Female
Aboaso Islamic Call Junior High School	10	6	4
Aboaso R/C Junior High School	7	3	4
Aboaso R/C Primary	10	5	5
Aboaso R/C Primary School	5	3	2
Abrade D/A Junior High School	9	5	4
Abrade D/A Primary School	7	4	3
Ahodwo M/A Junior High School	8	5	3
Ahodwo M/A Primary School	8	3	5
Ahwiaa D/A 'A' Junior High School	8	6	3
Ahwiaa Experimental A &B Junior High School	9	5	4
Ankaase SDA Junior High School	9	4	5
Antoa United M/A Primary School	9	4	5
Asante Gyapong Primary School	8	6	2
Asenua M/A Junior High School	8	5	3
Asenua M/A Primary School	6	3	3
Dumanafo M/A Junior High School	9	5	4
Dumanafo R/C Primary School	11	5	6
Ejuratia Methodist Junior High School	11	6	5
Ejuratia Methodist Primary School	6	2	4
Fawoade R/C Junior High School	6	4	2
Fawoade R/C Primary School	9	5	4
Hemang D/A Junior High School	9	4	5
Hemang D/A Primary School	6	3	3
Hemang Methodist Model Junior High School	10	5	5
Holy Qur'an Islamic Primary	12	7	5
Mampongteng D/A Primary A	4	2	2
Mampongteng D/A Primary B	8	5	3
Mampongteng R/C Primary A	6	2	4
Mampongteng R/C Primary B	8	5	3
Manponteng Presby Junior High School	8	4	4
Manponteng Presby Primary School	7	4	3
Mpobi D/A Junior High School	7	4	3
Mpobi D/A Primary School	8	5	3
Ntonso R/C Junior High School	6	3	3
Ntonso R/C PrimarySchool	9	4	5
Ntonso SDA Junior High School	11	4	6
Ntonso SDA Primary School	12	6	6
Nureel Huda Islamic Primary School	9	5	4
Nureel Huda Islamic Primary School	5	2	3
Wadie Adwumakase M/A Junior High School	9	5	4
TOTAL	**327**	**173**	**154**

Source: Field Data, 2022

3.8 Data Collection Instrument

In the view of Sekaran (2003), there are three main ways to obtain data from people and phenomena. These ways include interviewing, administering questionnaires, and observing people and phenomena. The quantitative approach and descriptive research design for this study required the use of a questionnaire, and as such, the researcher used a closed-ended questionnaire to solicit information from the respondents to help answer the research questions.

This tool was chosen because it made it simple to conduct surveys and get the necessary data from many study participants in a short amount of time. Cohen, Manion, and Morrison (2007) added that questionnaires are convenient, suitable, easy to analyze, and easy to respond to. In accordance with the four objectives established for the current study, the questionnaire was independently constructed using data acquired from the literature. The questionnaire was grouped into five sections. Section 1 gathered data on respondents' demographic characteristics. Section two targeted research question 1, which is the pedagogical challenges teachers face in teaching learners with visual impairments in the regular classroom. Section 3 was on material resource challenges teachers face in teaching learners with visual impairments, and sections 4 and 5 asked questions on challenges teachers face in assessing learners with visual impairments and measures that can be put in place to solve these challenges. Sections 2–5 consisted of three statement questions each. On a 5-point Likert scale, the questions were phrased as follows: strongly disagree (1), disagree (2), not sure (3), agree (4), and strongly agree (5).

3.9 Validity and Reliability of Study Instrument

Validity in this was achieved through self-evident measures—face validity and content validity. For face validity, the questionnaire was shared with other post-graduate learners for their assessment of how relevant the questions were with respect to the research topic. After assessment, they commented on whether the questions were simple to understand, and their recommendations were addressed through the rewording of some statements. The questionnaire was then given to the supervisor to evaluate, and all suggestions were implemented appropriately. Content validity is when a research instrument comprehensively measures the construct in its entirety (Heale & Twycross, 2015). To achieve this, a rigorous review of the literature was conducted on the challenge's teachers face in teaching learners with visual impairments and the challenges of adopting inclusive education. The information obtained guided the researcher in the development of the questionnaires.

3.10 Pre-Testing

A pre-test was conducted to ascertain whether the research instrument for the study would be able to correctly assess the challenges regular teachers face in teaching learners with visual impairments. Three schools with 15 teachers were selected from the Sekyere-South Municipality for the pre-test. This group was deemed appropriate for the pre-test because they share similar characteristics such as gender, age, length of service, academic and professional background, and ranks in the Ghana Education Service. This helped the researcher familiarize himself with the instrument. The pre-test produced internal consistency and a Cronbach alpha score of 6.5, which was deemed fair for the study.

3.11 Data Collection Procedure

The researcher gathered data in the study area during three weeks, from the third week of January 2022 to the second week of February 2022. Before this, the researcher met with the head teachers and staff of various schools to introduce himself and present an introductory letter as well as ethical approval. All questions and concerns were addressed, and the objectives and purpose of the study were described. Printed questionnaires were distributed to the teachers in the various schools. Respondents completed the questionnaire on their own time and returned it to the researcher within 20–25 minutes. The researcher was present to clarify any misunderstandings on the questionnaire.

3.12 Data Analysis

The data was analyzed using the statistical software STATA version 14. The variables were first coded using the Statistical Package for Social Sciences (SPSS) and then imported into STATA version 14 for data entry. Before analysis, all 327 questionnaires were entered into the STATA program. Using frequency distribution tables and descriptive statistics, the demographic characteristics of the respondents were examined. Descriptive statistics were also used to analyze pedagogical challenges, teaching and material challenges, and assessment challenges. The results were presented in tables and graphs.

3.13 Ethical Consideration

Ethical consideration in research is further defined by Cohen, Manion, and Morrison (2007) as a way of being sensitive to and considering the rights, duties, and responsibilities of individuals who are participating in a research study in terms of their status, religion, race, ability, and age. Since this study collected data from people, there was a need to observe ethics relating to such research. To achieve this, the researcher

was first issued an introductory letter from the Department of Special Education, University of Education Winneba (UEW). This letter was delivered to the Kwabre East Municipal Education Directorate, which then issued a letter to the researcher giving him permission to carry out the research in the various schools. The researcher again applied for ethical approval from the University Research Ethics Committee (UREC). In the field of data collection, the researcher explained the objectives to the respondents for their understanding, and questions and concerns were addressed. No respondent's participation in the study was forced. Each respondent was given a consent form to sign, attesting that their participation was voluntary and that they were free to withdraw from the study whenever they felt like it without suffering any consequences. In ensuring confidentiality, the researcher did not solicit personal identification, such as the names of respondents, so anonymity was observed. Again, there was no monetary incentive for participation.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS

4.0 Introduction

The chapter presents results from the study on the challenges regular teachers face in teaching learners with visual impairments in an inclusive classroom. Data was collected on 327 teachers. The results are presented in line with the four objectives set for the study, in addition to their demographic characteristics. The questions were, however, grouped into five sections. Section one sought information about respondents' demographics, such as age, sex, years of experience, and whether they studied special education or not. Section 2 assessed pedagogical challenges with 10 questions. Section 3 discussed the material resource challenges that regular teachers face when teaching learners with visual impairments. Section four assessed challenges regular teachers face in assessing learners with visual impairments, and Section five looked out for measures that could be put in place to address challenges regular teachers face in teaching learners with visual impairments. Respondents were asked to indicate their level of agreement with the statements on a 5-point Likert scale, where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5.

4.1 Demographic Data of Respondents

Table 2: Gender of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
	Males	173	52.91
Gender	Females	154	47.09
	Total	**327**	**100**

Source: Field Data, 2022

Results in Table 2 show that the majority (52.91% of the respondents) were males, while 47.09% of them were females. It therefore follows that there were more male respondents than females in this study.

Table 3: Age of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
	21 – 25 years	58	17.74
	26 – 30 years	116	35.47
	31 – 35 years	99	30.28
Age in Years	36 – 40 years	34	10.40
	41 – 45 years	9	2.75
	46+ years	11	3.36
	Total	**327**	**100**

Source: Field Data, 2022

Results from Table 3 indicate that a majority of 65.7% of the respondents in this study were between the ages of 26 and 35, and a few, 6.11, were more than 40 years old.

Table 4: Teaching Experiences of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
	1 – 5 years	105	32.11
Teaching	6 – 10 years	146	44.65
Experience in	11 – 15 years	57	17.43
Years	16+ years	19	5.81
	Total	**327**	**100**

Source: Field Data, 2022

Results from Table 4 show that the majority of the respondents (44.65%) in this study had taught between 6 and 10 years, 32.11% had taught between 1 and 5 years, 17.43% of the respondents had taught between 11 and 15 years, and 5.81% had taught for more than 16 to 20 years.

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Table 5: SPED Status of the Respondents

Demographic Factor	Respondent Subgroups	Frequency	Percentage
Studied SPED	**Yes**	46	14.07
	No	281	85.93
	Total	327	100

Source: Field Data, 2022

Table 5 shows that the majority of the respondents (85.95%) did not study special education as part of their training, while the remaining 14.07% studied special education.

4.2 Analysis

4.2.1 Pedagogical challenges faced by regular teachers

Table 6 presents the pedagogical challenges faced by regular teachers. Teachers were presented with 10 different statements on the challenges faced in pedagogy in teaching learners with visual impairments, as shown below:

Respondents were asked to indicate their level of agreement or disagreement with the statement pertaining to the pedagogical challenges they face in teaching learners with visual impairments. From Table 6, respondents agreed that the challenge they face most is adopting universal design in teaching to teach learners with visual impairments (with a mean score of 4.32).

This was followed by difficulty in adapting instructions with ease in order to assist learners with visual impairments to learn with ease (mean score 4.25); challenges in planning a variety of presentation modes in textual, verbal, and visual so as to accommodate the needs of learners with visual impairments (mean score 4.24); difficulty in adapting inquiry-oriented-based strategy (mean score 4.07); lack of requisite training to teach learners with visual impairments in a regular classroom

(mean score 3.95); and inability to adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom (mean score 3.95). The mean scores of 4.32, 4.25, 4.24, 4.07, 3.95, and 3.86 show that teachers agreed that they have pedagogical challenges in teaching learners with visual impairments.

Again, with the very low mean scores, teachers disagreed that they could use simulation in different situations to explain the content of their lesson to learners with visual impairments (mean score 2.20) and do not have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments (mean score 2.8). The standard deviation values recorded at 1.10, 1.37, 0.76, 1.17, and 0.75 showed the level of variation from their respective means, as shown in Table 6.

Table 6: Presents the Pedagogical Challenges Faced by Regular Teachers

Statement	1	2	3	4	5	Mean	S.D
I do not have the requisite training to teach learners with visual impairments in regular classroom	20	27	3	175	102	3.95	1.10
I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom	42	40	5	138	102	3.67	1.37
Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of Learners with visual impairments is a challenge.	7	7	2	194	117	4.24	.76
I cannot adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom.	18	41	18	141	109	3.86	1.17
I have difficulty in adapting instructions with ease in order to assist learners with visual impairments to learn with ease.	3	8	19	170	127	4.25	.75
I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.	87	88	11	84	57	2.8	1.5
I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with VI	17	16	10	168	116	4.07	1.02
I use multisensory teaching strategies to teach learners with visual impairments	63	55	21	117	71	3.24	1.45
Adopting universal design in teaching to teach learners with visual impairments is a difficult task	4	8	14	155	146	4.32	.77
I can use simulation in different situation explain the content of my lesson to learners with visual impairments	117	125	15	44	26	2.20	1.27
Overall mean						**3.66**	**1.12**

Source: Field Data, 2022

4.2.2 Material resource challenges for regular teachers

Table 7 presents the material resource challenges faced by regular teachers. In assessing the material resource challenges, eleven (11) statements targeting challenges teachers face in teaching were presented to the respondents. The statements required teachers to choose whether they agreed or disagreed with each statement. Analysis revealed that teachers lack material resources for teaching learners with visual impairments. From Table 6, respondents agreed that the major challenge they face most in teaching learners with visual impairments is inadequate speech readers for learners with visual impairments (mean score 4.55). This was followed by inadequate technologies like Job Access with Speech for learners with visual impairments (mean score 4.37); inadequate braille and embossers (mean score 4.35); inadequate equipment such as talking calculators (mean score 4.30); and inadequate funds to procure needed teaching and learning materials and resources for learners with visual impairments (mean score 4.25).

The high mean scores recorded here (4.55, 4.37, 4.35, 4.30, and 4.25) indicate regular teachers agreed on the issues raised on the table. Again, the low mean scores that were recorded in this section show that teachers disagree with statements such as learners having tape recorders to aid them after class (mean score 1.62); having access to braille textbooks for pupils with visual impairments (mean score 1.68); and optical devices being available in schools for assisting pupils with visual impairments. (mean score of 1.90); instructional materials and audiobooks for teaching learners with visual impairments are available in my school (mean score of 2.08). The low mean scores also indicated that the teachers lack material resources for teaching learners with visual impairments. The standard deviations of 0.79, 0.78, 0.66, 2.22, and so on, as presented in Table 7, show the level of variability from their respective means.

Table 7: Material Resource Challenges for Regular Teachers

Statement	1	2	3	4	5	Mean	S.D
I have access to brailed text books for pupils with visual impairments.	145	164	1	12	5	1.68	.79
Inadequate braille and embossers make it difficult to teach learners with visual impairments.	6	7	5	156	153	4.35	.78
Inadequate tangible objects such as talking calculator affect the teaching and learning of learners with visual impairments.	3	4	7	191	122	4.30	.66
Inadequate speech readers for learners with visual impairments make difficult for my lessons.	2	8	1	162	154	4.55	2.66
Optical devices are available in my school for assisting pupils with visual impairments.	138	145	3	20	21	1.90	1.12
Inadequate technologies like Job Access with Speech for learners make it a challenge in teaching learners with visual impairments.	6	9	9	137	166	4.37	.82
Learners have tape recorders to aid them after class	164	144	2	13	4	1.62	.80
There is inadequate tactile material for teaching learners with visual impairments	22	21	5	161	118	4.02	1.11
Inadequate funds make it difficult to procure needed teaching and learning materials/resources for learners with visual impairments	13	6	1	174	133	4.25	.88
Instructional materials audio books for teaching learners with visual impairments are available in my school	151	99	4	47	26	2.08	1.33
My school receives specialized equipment like braille note taker and voice recorder from the Ghana Education Service to teach learners with visual impairments.	134	102	3	45	43	2.27	1.44
Overall mean						**3.22**	**1.23**

Source: Field Data, 2022

4.2.3 Challenges regular teachers face in assessing learners with visual impairments

Table 8 presents the challenges teachers face when assessing learners with visual impairments' academic challenges. In order to measure this, the researcher identified twelve (12) statements that reflect the assessment challenges teachers face. The teachers were asked to register their level of agreement or disagreement with the statements presented to them. It was found that teachers face challenges when assessing the academic performance of learners with visual impairments. From Table 8, the respondents agreed that there are challenges when it comes to assessing learners with visual impairments' academic performance. Some items that recorded high means were the inability of learners with visual impairments to write in braille, making it difficult for me to assess them in written form. Giving extra time to learners with visual impairments is worrying to me as a regular classroom teacher. (with mean scores of 4.4), followed by adapting written texts for learners with visual impairments, which posed a challenge during assessment (mean score of 4.30); lack of skills necessary for assessing learners with visual impairments (mean score of 4.28); and reading questions for learners with visual impairments during assessment (mean score of 4.19). These high mean scores recorded under this objective give a clear indication of teachers' agreement that they face assessment challenges. Some items were also recorded at a very low mean, such as having adequate knowledge to use role play as an assessment method to assess learners with visual impairments (a mean score of 2.08) and that projects are not an effective tool to assess learners with visual impairments (2.75). This also implies that teachers disagree with the issues raised above, indicating difficulties in assessing the academic performance of learners with visual impairments. The table also shows standard deviation figures such as 1.54, 1.08, 0.95, 0.75, and others, indicating how they vary from their respective means.

Table 8: Challenges Regular Teachers Face in Assessing Learners with Visual

Impairment

Statement	1	2	3	4	5	Mean	S.D
Large print reading materials are provided for learners when assessing them.	60	56	2	101	108	3.43	1.54
I cannot braille and transcribe assignment of learners with visual impairments in my class	18	25	2	167	115	4.03	1.08
I give class exercises and assignments that suit the ability of learners with visual impairments.	3	32	17	151	124	4.10	.95
During assessment, I have to read questions for learners with visual impairments.	1	14	18	182	112	4.19	.75
Giving extra time for learners with visual impairments is worrying to me as a regular classroom teacher.	0	3	4	178	142	4.40	.57
Inability of learners with visual impairments to write in braille makes it difficult for me to assess them in written form	1	1	6	177	142	4.40	.58
Adapting written texts for learners with visual impairments pose a challenge to me during assessment.	1	2	6	215	107	4.30	.54
I do not have the skills necessary for assessing learners with visual impairments.	4	4	10	187	122	4.28	.70
I have resource persons to assist me in assessing learners with visual impairments	5	4	12	149	156	3.45	1.39
Demonstration as assessment method is difficult to adopt	3	33	142	123	26	3.42	.81
I have adequate knowledge to use role play as assessment method to assess learners with visual impairments	118	132	30	26	21	2.08	1.16
Projects are not effective tool to assess learners with visual impairments.	99	78	14	79	75	2.75	1.53
Overall Mean						**3.74**	**0.97**

Source: Field Data, 2022

4.2.4 Measures for addressing challenges in teaching learners with visual impairment.

Table 9 presents measures that can be put in place to address the challenges teachers face in teaching learners with Thirteen (13) statements that depict the proposed measures that can be put in place to address teachers' challenges faced in teaching learners with visual impairments were presented to the respondents. Assessment challenges teachers face They were asked to indicate whether they agreed with the thesis statement or not. From the table, it could be seen that all the items received high mean scores. For example, support from resource people should be provided to teachers, which produced a mean score of 4.54. This was followed by the need for material resources to be provided in my school to help learners with visual impairments; handouts prepared and available in large font and in Braille should always be available (with mean scores of 4.52 each); improvement in the special education component of the teacher trainee curriculum (mean score of 4.50); and effective and appropriate teaching strategies should be the hallmark of regular teachers (4.49). The high mean scores recorded imply that the teachers agree with the suggested measures posed to them. The varied standard deviations, for example, 0.66, 0.51, 0.49, and 0.51, among others, show that there were variations in the responses from the respondents with respect to the issues raised.

Table 9: Measures that can be put in Place to Address Challenges Teachers Face in Teaching Learners with visual impairments.

Statement	1	2	3	4	5	Mean	S.D
Regular teachers need sufficient knowledge in the education of learners with visual impairments.	0	3	6	194	124	4.31	.66
The needed material resources should be provided in my school to help learners with visual impairments.	0	0	1	154	172	4.52	.51
Sufficient time allowance should be given to learners with visual impairments during assessment.	0	0	0	189	138	4.42	.49
Supports from resource persons should be provided to teachers	0	0	1	150	176	4.54	.51
Teachers should be adequately motivated in order to help Learners with VI.	0	2	0	173	152	4.45	.53
Hand-out prepared and available in large font and in Braille should always be available in my class.	0	1	2	150	174	4.52	.53
Effective and appropriate teaching strategies should be the hallmark of regular teachers.	0	1	1	161	164	4.49	.52
Group discussions and co-operative learning should be employed in my teachings.	0	1	3	171	152	4.45	.53
Collaboration between teachers and parents must be enhanced	0	1	13	173	140	4.38	.58
Special education aspect of teacher trainee curriculum must be improved.	0	0	1	161	165	4.50	.51
In-service training and free refresher courses should be made available to teachers	2	1	0	175	149	4.43	.58
Teachers should adopt collaborative teaching and learning styles for teaching learners with impairment	0	3	1	175	148	4.43	.55
NGOs should focus some of their attention on the education of learners with visual impairments	2	2	16	127	180	4.47	.68
Overall Mean						**4.45**	**0.55**

Source: Field Data, 2022

Relative Importance Index Technique

It is used to determine the relative importance of the various challenge's teachers face in this study. This method was used to rank the pedagogical challenges, material resource challenges, challenges with assessing the academic performance of teachers, and ways to address the challenges. A five-point Likert scale was adopted for this study, ranging from 1: strongly disagree; 2: disagree; 3: not sure; 4: agree; and 5: strongly agree. These were transformed to achieve the relative importance index (RII) for each of the items on the questionnaire using the formula:

RII = ΣW / (A*N)

Where W = the weighting given to each factor by the respondents (ranging from 1 to 5)

A = is the highest weight (i.e. 5 in this case)

N = the total number of respondents

The higher the value of RII, the more important the challenge in this study

4.2.5 Relative importance index of material resource challenges for regular teachers

Table 10 seeks to find the relative importance index of the challenges teachers face in terms of pedagogy. It emerged that some of these challenges are more important in terms of rank. The statement "Adopting universal design in teaching to teach learners with visual impairments is a difficult task" received the highest RII of **0.863609.** Second in rank, it was found to have difficulty adapting instructions to suit the diverse needs of learners with visual impairments, with an RII of **0.850765.** Again, a challenge in planning a variety of presentation modes in textual, verbal, and visual so as to accommodate the needs of learners with visual impairments was ranked third with an RII of **0.84893.**

Table 10: Relative Importance Index of Pedagogical Challenges Faced by

Regular Teachers

Statement	RII	Rank
I do not have the requisite training to teach learners with visual impairments in regular classroom	0.790826	5
I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom	0.733333	7
Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of learners with visual impairments is a challenge.	0.84893	3
I cannot adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom	0.772477	6
I have difficulty in adapting instructions with ease in order to assist learners with visual impairments.	0.850765	2
I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.	0.560856	9
I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with visual impairments	0.814067	4
I use multisensory teaching strategies to teach learners with visual impairments	0.647706	8
Adopting universal design in teaching to teach learners with visual impairments is a difficult task	0.863609	1
I can use simulation in different situation explain the content of my lesson to learners with visual impairments	0.439144	10

Source: Field data (2022). RII=Relative Importance Index

4.2.6 Relative importance index material resource challenges of regular teachers

Table 11 presents the relative importance index of material resource challenges faced by regular teachers. From the list of statements, "Inadequate speech readers for learners with visual impairments make my lessons difficult" appeared as the most important challenge, with an RII of **0.880122.** This was followed by "Inadequate technologies like Job Access with Speech for learners make it a challenge to teach

learners with VI" with a RII of **0.874006.** Third on the list is inadequate braille and braille embossers. The rest are presented in the table below.

Table 11: Relative Importance Index of Material Resource Challenges for Regular Teachers

Statement	RII	Rank
I have access to brailed text books for pupils with visual impairments.	0.33578	10
Inadequate braille and embossers make it difficult to teach learners with visual impairments.	0.870948	3
Inadequate tangible objects such as talking calculator affect the teaching and learning of learners with visual impairments.	0.859939	4
Inadequate speech readers for learners with visual impairments make difficult for my lessons.	0.880122	1
Optical devices are available in my school for assisting pupils with visual impairments.	0.380428	9
Inadequate technologies like Job Access With Speech for learners make it a challenge in teaching learners with visual impairments.	0.874006	2
Learners have tape recorders to aid them after class	0.324159	11
There is inadequate tactile material for teaching learners with visual impairments	0.803058	6
Inadequate funds make it difficult to procure needed teaching and learning materials/resources for learners with visual impairments	0.849541	5
Instructional materials audio books and for teaching learners with visual impairments are available in my school	0.415291	8
My school receives specialized equipment like braille note taker and voice recorder from the Ghana Education Service to teach learners with visual impairments.	0.453823	7

Source: Field data (2022). RII=Relative Importance Index

4.2.7 Relative importance index of challenges regular teachers face in assessing learners with visual impairments

Table 12 presents a summary of the assessment challenges faced by regular teachers when teaching learners with visual impairments. Analysis revealed that giving extra time to learners with visual impairments was the most important challenge, which had a RII of 0.880734. Second on the list was the statement "The inability of learners with visual impairments to write in braille makes it difficult for me to assess them in written form," with an RII of 0.880122. With a RII of 0.87156, insufficient resource persons to assist regular teachers in assessing learners with visual impairments were ranked third. The ranks for the rest of the statements are presented in Table 4.7 below.

Table 12: Relative Importance Index of Challenges Regular Teachers Face in Assessing Learners with Visual impairments

Statement	RII	Rank
Large print reading materials are provided for learners when assessing them.	0.686239	10
I cannot braille and transcribe assignment of learners with visual impairments in my class	0.805505	8
I give class exercises and assignments that suit the ability of learners with visual impairments.	0.820795	7
During assessment, I have to read questions for learners with visual impairments.	0.838532	6
Giving extra time for learners with visual impairments is worrying to me as a regular classroom teacher.	0.880734	1
Inability of learners with visual impairments to write in braille makes it difficult for me to assess them in written form	0.880122	2
Adapting written texts for learners with visual impairments pose a challenge to me during assessment.	0.867278	4
I do not have the skills necessary for assessing learners with visual impairments.	0.856269	5
I have skills necessary for assessing learners with visual impairments	0.689908	9
I do not have resource persons to assist me in assessing learners with visual impairments	0.87156	3
Demonstration as assessment method is difficult to adopt	0.68318	11
I have adequate knowledge to use role play as assessment method to assess learners with visual impairments	0.416514	13
Projects are not effective tool to assess learners with visual impairments.	0.604281	12

Source: Field data (2022). RII=Relative Importance Index

4.2.8 Relative Importance Index of Measures that can be put in place to address challenges teachers face in teaching learners with visual impairments.

In Table 13, measures to put in place to address the challenges regular teachers face were ranked. First on the list was the statement "Support from resource persons should be provided to regular teachers," which received a RII of **0.907034.** The second most important measure to address the challenges was "Needed material resources should be provided in my school to help learners with visual impairments," with an RII

of 0.904587. Next on the rank was the statement "Handouts prepared and available in large font and in Braille should always be available in my class," with an RII of 0.903976. Again, teachers indicated that "the special education aspect or component of the teacher trainee curriculum must be improved," which was ranked fourth with a RII of 0.900306.

Table 13: Relative Importance Index of Measures that can be put in Place to Address Challenges Teachers face in Teaching Learners with Visual Impairment

Statement	RII	Rank
Regular teachers need sufficient knowledge in the education of learners with visual impairments.	0.868502	13
The needed material resources should be provided in my school to help learners with visual impairments.	0.904587	2
Sufficient time allowance should be given to learners with visual impairments during assessment.	0.884404	11
Supports from resource persons should be provided to regular teachers.	0.907034	1
Teachers should be adequately motivated in order to help Learners with visual impairments.	0.89052	7
Hand-out prepared and available in large font and in Braille should always be available in my class.	0.903976	3
Effective and appropriate teaching strategies should be the hallmark of regular teachers.	0.898471	5
Group discussions and co-operative learning should be employed in my teachings.	0.889908	8
Collaboration between teachers and parents must be enhanced	0.876453	12
Special education aspect of teacher trainee curriculum must be improved.	0.900306	4
In-service training and free refresher courses should be made available to teachers	0.886239	9
Teachers should adopt collaborative teaching and learning styles for teaching learners with impairment	0.886239	9
NGOs should focus some of their attention on the education of learners with visual impairments.	0.89419	6

Source: Field data (2022) RII=Relative Importance Index

4.2.9 Association between respondents' demographical characteristics and pedagogical challenges

4.2.9.1 Association between gender and pedagogical challenges of respondents

Out of the 327 respondents, 58 were aged between 21 and 25 years, 116 were in the 26–30 age bracket, and 99 fell within the 31–35 age bracket, as presented in the table below. Of the 58 respondents aged 21 to 25, 10 (17.24%), 1 (1.72%), and 47 (81.04%) disagreed, were unsure, and agreed to having competence in addressing the learning needs of learners with visual impairments in the classroom, respectively. This statement produced a P-value of 0.000. On having difficulty adopting an inquiry-oriented-based strategy in teaching learners with VI, 4 (4.04%) within the 31–35 age bracket disagreed, 8 (8.08%) were not sure, and 87 (87.88%) agreed. The recorded p-value was 0.033. Of the ten statements, five produced p-values that were significant, while the other five statements were not significant. It can therefore be observed that there is an association between age and pedagogical challenges.

Table 14: Association between Gender and Pedagogical Challenges of

Respondents

Statement	n (%)	Disagree	Not sure	Agree	P-value
I do not have the requisite training to teach learners with visual impairments in regular classroom					0.149
Male (%)	173	23 (13.29)	2 (1.16)	148 (85.51)	
Female (%)	154	24 (15.59)	1 (0.65)	129 (83.79)	
I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom					0.332
Male (%)		42(24.27)	4(2.31)	127(73.41)	
Female (%)		40(25.97)	1(0.65)	113(73.38)	
Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of Learners with visual impairments is a challenge.					0.341
Male		5(2.89)	1(0.58)	167(96.95)	
Female		9(5.85)	1(0.65)	144(93.50)	
I cannot adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom.					0.163
Male		35(20.23)	10(5.78)	128(73.99)	
Female		24(15.58)	8(5.19)	122(79.22)	
I have difficulty in adapting instructions with ease in order to assist learners with visual impairments to learn with ease.					0.422
Male		7(4.04)	12(6.94)	154(89.02)	
Female		4(2.6)	7(4.55)	143(92.86)	
I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.					0.913

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Male	96(55.94)	6(3.47)	71(41.04)
Female	79(51.30)	5(3.25)	70(45.45)
I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with visual impairments				0.235
Male	15(8.67)	5(2.89)	153(88.44)
Female	18(11.68)	5(3.25)	131(85.07)
I use multisensory teaching strategies to teach learners with visual impairments				0.996
Male	62(35.84)	11(6.36)	100(57.81)
Female	56(36.36)	10(6.49)	88(57.14)
Adopting universal design in teaching to teach learners with visual impairments is a difficult task				0.141
Male	8(4.63)	5(2.89)	160(92.48)
Female	4(2.61)	9(5.84)	141(91.55)
I can use simulation in different situation explain the content of my lesson to learners with visual impairments				0.279
Male	**127(73.41)**	**12(6.94)**	**34(19.66)**
Female	**115(74.67)**	**3(1.95)**	**36(23.38)**

4.2.9.2 Association between age and pedagogical challenges of respondents

Out of the 327 respondents, 58 were aged between 21 and 25 years, 116 were in the 26–30 age bracket, and 99 fell within the 31–35 age bracket, as presented in the table below. Of the 58 respondents aged 21 to 25, 10 (17.24%), 1 (1.72%), and 47 (81.04%) disagreed, were unsure, and agreed to having competence in addressing the learning needs of learners with visual impairments in the classroom, respectively. This statement produced a P-value of 0.000. On having difficulty adopting an inquiry-oriented-based strategy in teaching learners with VI, 4 (4.04%) within the 31–35 age bracket disagreed, 8 (8.08%) were not sure, and 87 (87.88%) agreed. The recorded p-value was 0.033. Of the ten statements, five produced p-values that were significant,

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while the other five statements were not significant. It can therefore be observed that there is an association between age and pedagogical challenges.
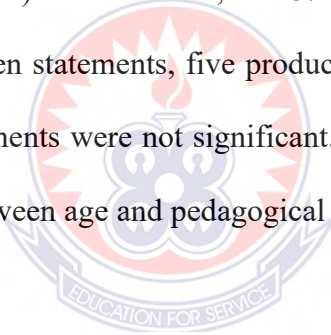
Table 15: Association between Pedagogical Challenges and Age

Statement	n (%)	Disagree	Not sure	Agree	P-value
I do not have the requisite training to teach learners with visual impairments in regular classroom					0.243
21-25	58	8(13)	0	50(86.20)	
26-30	116	26(22.41)	1(0.86)	89(76.72)	
31-35	99	8(8.08)	2 (2.02)	89(89.90)	
36-40	34	1(2.94)	0	33(97.05)	
41-45	9	1(11.11)	2 (22.11)	6(66.66)	
46 and above	11	1(9.09)	0	10(90.91)	
I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom					0.233
21-25		8(13.80)	0	50(86.20)	
26-30		37(31.9)	2(1.72)	77(66.38)	
31-35		24(24.24)	2(2.02)	73(73.73)	
36-40		7(20.59)	0	27(79.41)	
41-45		4(44.44)	0	5(55.55)	
46 and above		2(18.18)	1(9.09)	8(72.72)	
Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of Learners with visual impairments is a challenge.					0.324
21-25		5(8.62)	0	53(91.38)	
26-30		5(4.31)	0	111(95.69)	
31-35		2(2.02)	1(1.01)	96(96.97)	
36-40		0	1(2.94)	33(97.06)	
41-45		2(22.22)	0	7(77.78	
46 and above		0	0	11(100)	
I cannot adapt the content of the curriculum to suit the diverse needs					**0.000**

of learners with visual impairments in
the classroom.

21-25	12(36.97)	1(1.72)	36(62.07)	
26-30	15(12.93)	4(3.45)	97(83.62)	
31-35	13(13.13)	5(5.05)	81(81.82)	
36-40	6(17.65)	3(8.82)	25(73.53)	
41-45	2(22.22)	3(33.33)	4(44.45)	
46 and above	2(18.18)	2(18.18)	7(63.64)	
I have difficulty in adapting instructions with ease in order to assist learners with visual impairments to learn with ease.				**0.033**
21-25	3(5.17)	0	55(94.83)	
26-30	1(0.86)	5(4.31)	110(94.83)	
31-35	4(4.04)	7(7.07)	88(88.89)	
36-40	2(5.88)	3(8.82)	29(85.30)	
41-45	1(11.11)	3(33.33)	5(65.56)	
46 and above	0	1(9.09)	10(90.91)	
I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.				**0.000**
21-25	10(17.24)	1(1.72)	47(81.04)	
26-30	58(50.00)	6(5.17)	52(44.83)	
31-35	68(68.72)	2(2.02)	29(29.26)	
36-40	26(76.47)	1(2.94)	7(20.59)	
41-45	6(66.66)	0	3(33.34)	
46 and above	7(63.63)	1(9.09)	3(27.28)	
I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with visual impairments				**0.033**
21-25	7(12.07)	0	51(87.93)	
26-30	17(14.65)	1(0.86)	98(84.49)	
31-35	4(4.04)	8(8.08)	87(87.88)	
36-40	2(5.88)	0	32(91.18)	
41-45	1(11.11)	0	8(88.89)	
46 and above	2(18.18)	1(9.09)	8(72.73)	

I use multisensory teaching strategies to teach learners with visual impairments			**0.000**
21-25	7(12.07)	2(3.45)	49(84.48)
26-30	44(37.94)	4(3.45)	68(58.61)
31-35	44(44.44)	5(5.05)	50(50.51)
36-40	11(32.36)	9(26.94)	14(40.70)
41-45	5(55.55)		4(44.44)
46 and above	7(63.63)	1(9.09)	3(36.37)
Adopting universal design in teaching to teach learners with visual impairments is a difficult task			0.276
21-25	0	1(1.72)	57(98.28)
26-30	3(2.58)	4(3.45)	109(93.97)
31-35	4(4.04)	6(6.06)	89(89.90)
36-40	3(8.82)	1(2.94)	30(88.24)
41-45	1(11.11)	1(11.11)	7(77.78)
46 and above	1(9.09)	1(9.09)	9(81.82)
I can use simulation in different situation explain the content of my lesson to learners with visual impairments			**0.002**
21-25	40(68.97)	0	18(31.03)
26-30	81(69.80)	3(2.59)	32(27.61)
31-35	77(77.77)	4(4.04)	18(18.19)
36-40	28(82.55)	5(14.71)	1(2.74)
41-45	7(77.77)	2(22.23)	0
46 and above	9(82.82)	1(9.09)	1(9.09)

4.2.9.3 Years of teaching experience against pedagogical challenges of

respondents

Table 16 shows the experience of teachers and their pedagogical challenges. Of respondents who had 1–5 years of teaching experience, 12 (11.43%), 1 (0.95%), and 92 (88.57%) disagreed, were not sure, and agreed, respectively, with the statement that they did not have the requisite training to teach learners with visual impairments in a

regular classroom. For those who had 6–10 years of teaching experience, 30 (20.55%) disagreed and 116 (79.45%) agreed with the statement. Again, with respondents who had 11–15 years of experience, 3 (5.26%) disagreed, 2 (3.51%) were not sure, and 52 (91.23%) agreed. This statement yielded a P-value of 0.039. On the statement "I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom," 89 (60.96), 4 (2.74), and 53 (36.30) of respondents who have 6–10 years of experience disagreed, were not sure, and agreed, respectively. 13 (68.42) of those aged 16 and up disagreed, 1 (5.26) was unsure, and 5 (26.36) agreed. The P-value was 0.0001.

Table 16: Years of Teaching Experience against Pedagogical Challenges of

Respondents

Statement	n (%)	Disagree	Not sure	Agree	P-value
I do not have the requisite training to teach learners with visual impairments in regular classroom					**0.039**
1-5		12(11.43)	1(0.95)	92(88.57)	
6-10		30(20.55)	0	116(79.45)	
11-15		3(5.26)	2(3.51)	52(91.23)	
16 and above		2(10.53)	0	17(89.47)	
I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom					0.282
1-5		16(15.24)	1(0.95)	88(83.81)	
6-10		43(29.45)	2(1.37)	101(69.18)	
11-15		19(33.33)	1(1.75)	37(64.92)	
16 and above		4(21.06)	1(5.26)	14(73.68)	
Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of Learners with visual impairments a challenge.					0.945
1-5		6(5.72)	0	99(94.28)	
6-10		5(3.42)	2(1.37)	139(95.21)	
11-15		2(3.45)	0	55(96.55)	
16 and above		1(5.25)	0	18(94.75)	
I cannot adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom.					0.168
1-5		28(26.66)	1(0.95)	76(72.39)	
6-10		21(14.38)	9(6.16)	116(79.46)	
11-15		6(10.52)	6(10.53)	45(78.95)	
16 and above		4(21.05)	2(10.53)	13(68.42)	
I have difficulty in adapting instructions with ease in order to					0.170

assist learners with visual impairments to learn with ease.				
1-5	5(4.76)	5(4.76)	95(90.46)	
6-10	2(1.36)	7(4.79)	137(93.85)	
11-15	3(5.26)	3(5.26)	51(89.48)	
16 and above	1(5.26)	4(21.05)	14(73.69)	
I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.				**0.000**
1-5	33(31.43)	2(1.90)	70(66.67)	
6-10	89(60.96)	4(2.74)	53(36.30)	
11-15	40(70.17)	4(7.02)	13(22.81)	
16 and above	13(68.42)	1(5.26)	5(26.36)	
I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with VI				0.201
1-5	9(8.57)	0	96(91.43)	
6-10	19(13.01)	7(4.79)	120(82.20)	
11-15	3(5.26)	1(1.57)	53(92.99)	
16 and above	2(10.52)	2(10.53)	15(78.95)	
I use multisensory teaching strategies to teach learners with visual impairments				**0.000**
1-5	24(22.86)	4(3.81)	77(73.33)	
6-10	57(39.04)	7(4.79)	82(56.17)	
11-15	26(45.62)	8(14.04)	23(40.34)	
16 and above	11(57.89)	2(10.53)	6(31.58)	
Adopting universal design in teaching to teach learners with visual impairments is a difficult task				0.319
1-5	3(2.85)	3(2.86)	99(94.29)	
6-10	4(2.74)	6(4.11)	136(93.15)	
11-15	3(5.26)	5(8.77)	49(85.97)	
16 and above	2(10.52)	0	17(89.48)	
I can use simulation in different situation explain the content of my				**0.003**

lesson to learners with visual impairments			
1-5	72(68.57)	1(0.96)	35(30.47)
6-10	105(71.92)	7(4.79)	34(23.29)
11-15	49(85.96)	5(8.77)	3(5.26)
16 and above	16(52.63)	2(10.53)	1(5.26)

4.2.9.4 Pedagogical challenges against whether respondents studied SPED or not

Table 17 presents respondents' pedagogical challenges based on whether or not they studied special education in school. The difficulty in planning a variety of presentation modes in textual, verbal, and visual formats in order to meet the needs of learners with VI, 6 (13.05%) and 40 (86.95%) of respondents who indicated that they studied special education disagreed and agreed, respectively. For those who had not studied special education, 8 (2.85%), 2 (0.71%), and 271 (96.43%) disagreed, were not sure, and agreed, respectively. The P-value was 0.008. In regard to competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments, 3 (6.52%) of respondents who indicated they studied special education disagreed, while 44 (95.65%) agreed. Again, for respondents who had not studied special education, 172 (61.21%) disagreed, 11 (3.91%) were not sure, and 98 (34.88%) agreed. The p-value was 0.000. It can be inferred that there is an association between whether or not a respondent studied SPED and pedagogical challenges.

Table 17: Pedagogical Challenges against Whether Respondents Studied SPED or not

Statement	n (%)	Disagree	Not sure	Agree	P-value
I do not have the requisite training to teach learners with visual impairments in regular classroom					0.738
Yes	46	5(10.89)	0	41(89.11)	
No	281	42(14.95)	3(1.07)	236(83.98)	
I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom					0.131
Yes		5(10.87)	0	41(89.25)	
No		77(27.40)	5(1.78)	119(70.82)	
Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of Learners with visual impairments a challenge.					**0.008**
Yes		6(13.05)	0	40(86.95)	
No		8(2.85)	2(0.71)	271(96.43)	
I cannot adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom.					0.075
Yes		13(28.26)	1(2.17)	32(69.57)	
No		46(16.37)	17(6.05)	218(77.58)	
I have difficulty in adapting instructions with ease in order to assist learners with visual impairments to learn with ease.					**0.044**
Yes		2(4.35)	0	44(95.65)	
No		9(3.24)	19(6.76)	253(90.03)	
I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.					**0.000**

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Yes		3(6.52)	0	43(93.48)	
No		172(61.21)	11(3.91)	98(34.88)	
I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with visual impairments					0.363
Yes		2(4.34)	0	44(95.66)	
No		31(11.03)	10(3.56)	240(85.41)	
I use multisensory teaching strategies to teach learners with visual impairments					**0.000**
Yes	46	1(2.17)	1(2.17)	44(95.66)	
No	281	117(41.63)	20(7.12)	144(51.25)	
Adopting universal design in teaching to teach learners with visual impairments is a difficult task					0.336
Yes		1(2.17)	0	45(97.83)	
No		11(3.92)	14(4.98)	256(91.10)	
I can use simulation in different situation explain the content of my lesson to learners with visual impairments					**0.000**
Yes		27(58.70)	0	17(41.30)	
No		215(76.51)	15(5.34)	18(18.15)	

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This study assessed the challenges regular teachers face in teaching learners with visual impairments. In this chapter, the results of the study of 327 regular teachers are discussed with related literature. The discussions are based on the themes set for this study: pedagogical challenges faced by regular teachers; material resource challenges faced by regular teachers; challenges regular teachers face in assessing learners with visual impairments; measures that can be put in place to address the challenges teachers face in teaching learners with visual impairments in the general education classroom.

5.1 Pedagogical Challenges Faced by Regular Teachers

Though authors such as Porter et al. (2011) and Schoeman (2012) have opined that pedagogy is a critical factor in the academic success of children with special educational needs, it emerged from the current study that regular teachers in the Kwabre East municipality face challenges with pedagogy as far as the teaching of learners with visual impairments is concerned. On all items used to assess challenges in pedagogy in teaching learners with disabilities, respondents had challenges. For example, it emerged that a majority of 175 (53.52%) regular teachers in the district do not have the requisite training to teach learners with visual impairments. This agrees with research conducted in Kenya by Osero (2015), where it was found that a lack of knowledge in special needs education for teachers presents a challenge. This might suggest that teachers do not receive training on how to teach children with visual impairments. In the face of this challenge, it might be difficult for regular teachers to deliver to the benefit of learners

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with visual impairments. The findings also revealed that regular teachers face challenges in adopting inquiry-based strategies.

For instance, 168 (51.38%) agreed and 116 (35.47%) strongly agreed to having difficulties adopting an inquiry-oriented-based strategy in teaching learners with visual impairments. This can be linked to the finding by Lewis and Bagree (2013), who established that teachers were unable to use appropriate teaching methods to teach learners with visual impairments. Meanwhile, these strategies have been found by researchers such as Fraser and Maguvhe (2008), Rooks and Marker (2009), and Lumadi and Maguvhe (2012) to be effective in teaching learners with visual impairments. The inability of regular teachers to adopt these strategies in teaching learners with visual impairments might affect their academic performance. The findings also show that regular teachers face difficulties in planning a variety of presentation modes in textual, verbal, and visual formats in order to meet the needs of learners with visual impairments. This and other challenges observed in the current study align with other studies. For example, Kumar et al. (2001) found that there are few teachers who are adequately competent and motivated to work with children with disabilities. Biddle (2005) also found that there is insufficient knowledge and skills among teachers regarding the implementation of inclusive teaching for learners with visual impairments.

The findings corroborate the claim by Chhabra, Strivasta, and Strivasta (2010) that a lack of training in inclusive education poses difficulties in the implementation of inclusive education since it makes the teachers either unprepared or less accommodating to inclusive education. This suggests that inclusive education in the Kwabre East Municipality may not be successful or beneficial to children with visual impairments. In a study, Bhatnagar and Das (2014) found that the barriers that obstructed the successful implementation of inclusive education as stated by the

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teachers were a lack of an inclusion policy and a lack of trained teachers and paraprofessionals.

5.2 Material Resource Challenges for Regular Teachers

With adequate training in special education and strong pedagogical skills, teachers still teach and learn resources in order to teach learners with visual impairments. This study, however, found that teachers face numerous challenges regarding material resources for teaching learners with visual impairments. The majority of teachers (145 (44.34%) and 164 (50.15%) strongly disagreed with having braille textbooks. This finding corroborates the study of Darkwa (2011) on the problem's teachers face in teaching learners with visual impairments, where it was observed that braille books and raised diagrams were not readily available for use by teachers to enhance the children's learning. This also supports the finding of Sikanku (2018), where 93% of the teachers indicated that they do not have access to braille textbooks for learners with visual impairments. This could mean that the agency responsible for education, and for that matter, the special education unit of the Ghana Education Service, is not performing its role to ensure quality. It might also suggest that the government has failed to provide the needed resources for the Ghana Education Service to function. This finding can be linked to the conclusion made by Masuku (2010) that inadequate teaching and learning materials in Swaziland schools imply the country's non-preparedness towards the implementation of inclusive education. With this challenge, teachers might not be able to teach learners with visual impairments, and learners with visual impairments may not benefit from the education system. The study further revealed that there is inadequate tactile material for teaching learners with visual impairments, where 161 (49.24%) and 118 (36.09%) agreed and strongly agreed, respectively.

Regular teachers further indicated that inadequate technologies like Job Access with Speech for learners make it a challenge to teach learners with visual impairments. These findings in general support those of previous researchers such as Bhatnagar and Das (2014), who concluded that regular teachers faced challenges due to a lack of resources. These findings further agree with a study conducted in Spain that focused on analyzing the process of inclusion for learners with visual impairments by Simon, Echeita, Sandoval, and Lopez (2010). They observed that schools do not have appropriate teaching and learning resources to help learners with visual impairments learn better in inclusive classrooms.

These challenges, experienced by regular teachers, cause learners with visual impairments to lag behind their non-disabled peers. Since they might not be able to acquire practical skills from their lessons in order to be on par and compete with their non-disabled colleagues, Inadequate funding for the procurement of teaching and learning materials as well as specialized equipment was found to be a challenge for regular teachers in inclusive schools. On this item, 174 (53.21%) agreed and 133 (40.67%) strongly agreed that inadequate funds make it difficult to procure teaching and learning materials. This finding agrees with the assertion that funds allocated from the government and relevant stakeholders to procure specialized resources to aid in the teaching of learners with visual impairments are insufficient, which poses a challenge to their positive academic performance.

5.3 Challenges Regular Teachers Face in Assessing Learners with Visual Impairments

The findings revealed that teachers face challenges in assessing learners with visual impairments. For example, when asked whether regular teachers can transcribe braille assignments of learners with visual impairments, 167 (51.07) agreed and 115

(35.17) strongly agreed that they cannot. This particular finding can be compared to a study conducted in Ghana to assess the challenges of teaching pupils with visual impairments in inclusive classrooms among teachers by Sikanku (2018). In her work, she found out that more than half (58.6%) of the respondents do not have appropriate braille skills to support learners with visual impairments. In the face of this challenge, regular teachers may not give assignments to learners with visual impairments since they cannot transcribe and mark them. How will regular teachers assess learners with visual impairments in an inclusive classroom when they cannot transcribe and mark their assignments? With this, teachers might decide to give any marks to learners with visual impairments based on their intuition and impressions, which might not be a true reflection of the learner's academic performance with visual impairments. When this happens, deserving learners might be repeated while undeserving ones could be promoted, and vice versa.

The study also revealed that teachers found it worrying to give extra time to learners with visual impairments during assessment. For example, almost all the respondents (320) agreed or strongly agreed that giving extra time to learners with visual impairments is worrying. This confirms the assertion by Mwakyeja (2013) that it may take longer for learners with visual impairments to write down notes and instructions from teachers. It also agrees with the finding of Osero (2015), where 8.9% of teachers indicated inclusion was time-consuming. The reason for the large difference between the percentage of regular teachers in the current study and that of Osero (2015) could be that respondents in Osero's study were asked to rank challenges faced, whereas the current study required teachers to indicate their level of agreement or disagreement with the statement. The finding, however, is inconsistent with Mugambi's (2011) research in Nairobi, Kenya, on the challenges faced by teachers in teaching learners

with visual impairments in an integrated school, in which few respondents (35%) saw extra-time allocation as a challenge.

The study further found that regular teachers lack the required material for effective assessment of learners with visual impairments. For instance, it was observed that 207 learners (66.89%) did not have large print reading materials when assessing learners with visual impairments. This finding is consistent with the assertion that the government did not or delayed providing teaching and learning materials to special schools. When they are finally provided, they are not enough for the entire period of their stay at the school (Acheampong et al., 2021). This finding might cause learners with disabilities to be at a disadvantage and could lead to poor academic performance among children with disabilities compared to their non-disabled counterparts in the inclusive educational system, as claimed by Blackorby et al. (2005).

5.4 Measures that can be put in Place to Address Challenges Teachers Face in Teaching Learners with Visual Impairments

The study sought to find out from regular teachers how they think the challenges they face in teaching learners with visual impairments can be addressed. The majority of the regular teachers agreed with all the statements posed to them.

According to the statement, the special education aspect of the teacher trainee curriculum must be improved. Only one respondent indicated neutrality, while the rest either agreed or strongly agreed. This finding is in line with the finding of Lewis and Little (2007), who found that the special education component teachers receive as part of their training is insufficient, which makes it a challenge to teach learners with disabilities, including those with visual impairments, in an inclusive classroom. This recommendation might be one of the most effective ways to address the challenges teachers face in terms of pedagogy. When prospective teachers are adequately prepared

through their training at the various colleges, they might come out competent at teaching learners with visual impairments. This could help improve the academic performance of learners with visual impairments in an inclusive school setting. This might also help reduce the dependence of regular teachers on paraprofessionals for support in teaching learners with visual impairments. It might also lessen the burden on professionals, who are in limited supply.

Regular teachers again indicated that there should be adequate motivation for regular teachers to help learners with visual impairments. On this item, 173 (52.91%) agreed, and 152 (46.48%) strongly agreed. This measure agrees with Lewis and Bagree (2013), who opined that there is a global shortage of teachers who are sufficiently trained to include children with disabilities (and children from other marginalized groups) in regular schools due to inadequate motivation. Kumar et al. (2001) also indicated that there are few teachers who are adequately competent and motivated to work with children with disabilities.

Meanwhile, Hayes (2011) claimed that motivation is necessary for every facet of life because of its strong role in igniting interest and commitment to participate in and work to achieve the desired results. When regular teachers are motivated, it might be easier for them to give their best as far as the teaching of learners with visual impairments is concerned. Regular teachers further indicated that in-service training and free refresher courses should be made available to teachers, and almost 99% of the respondents agreed or strongly agreed with the statement. This is in line with the finding of Hettiarachchi and Das (2014), who reported that all the respondents in their study called for the need for on-going professional development and training for regular teachers who teach learners with special needs. Since most regular teachers do not have a special education background, if implemented, the measure could bolster regular teachers' pedagogical skills in teaching learners with visual impairments, which will

help them compete with their non-disabled peers. Teachers also suggested that needed material resources be provided to schools to help in the teaching of learners with visual impairments. This measure by regular teachers is consistent with Sikanku (2018), who recommended, based on her findings, that the government of Ghana improve the supply of teaching and learning materials such as brailed textbooks as well as assistive devices. Without an adequate and timely supply of teaching and learning materials, teachers are likely to find challenges in teaching learners with visual impairments, even with the appropriate skills. Regular teachers again indicated that the activities of NGOs in terms of donations towards the education of learners with visual impairments can help address some of the challenges faced. This finding corroborates the recommendation made by Sikanku (2018) that non-governmental organizations and philanthropists should continue with their donations to schools. In the absence of or inadequate government provision of funds and teaching and learning materials to ensure effective teaching and learning for learners with visual impairments, support from NGOs might be of great help.
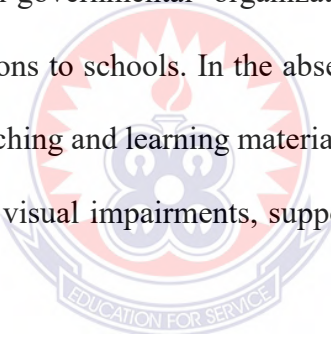
CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary and conclusions of the study in line with the findings and makes recommendations on the challenges regular teachers face in teaching learners with visual impairments in the inclusive schools in the Kwabre East Municipality. The research questions set out for this study were:

➢ What pedagogical techniques are employed by regular teachers in teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality?

➢ What are the available instructional materials and resources for regular teachers teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality?

➢ What techniques are employed by regular teachers for assessing learners with visual impairments in inclusive schools in the Kwabre East Municipality?

➢ What measures can be put in place to address the challenges faced by teachers in teaching learners with visual impairments?

A total of 327 regular teachers from the municipality were recruited for the study. The study was quantitative in approach, and a cross-sectional design was adopted. The data was analyzed using STATA software version 14. Descriptive statistics and chi-square tests were conducted to draw associations between demographic characteristics, pedagogical challenges, and the challenges regular teachers face with the assessment of learners with visual impairments.

6.1 Summary of Major Findings

6.1.1 Research question 1

The study found that regular teachers face pedagogical challenges in teaching learners with visual impairments. In terms of ranking, adopting universal design in teaching to teach learners with visual impairments is a difficult task and was ranked first, making it the major challenge. This was followed by difficulty in adapting instructions with ease to assist learners with visual impairments. The third challenge was to plan a variety of presentation modes in textual, verbal, and visual formats to meet the needs of learners with visual impairments.

It was also discovered that demographic factors such as the respondents' age, number of years of teaching experience, and whether or not they studied special education had an impact on their pedagogical challenges.

6.1.2 Research question 2

Here, the study found that there is a lack of material resources for teaching learners with visual impairments, which presents a major challenge to regular teachers in the Kwabre East Municipality. On all the statements, regular teachers indicated that there are major challenges with greater percentages. The relative importance index reveals that among the material resource challenges, inadequate speech readers for learners with visual impairments were ranked first. This was followed by inadequate technologies like Job Access with Speech for learners with visual impairments. Third on the list was inadequate braille and embossers, which make it difficult to teach learners with visual impairments.

6.1.3 Research question 3

Research question 3 addresses the challenges teachers face in assessing learners with visual impairments. Here it was revealed that regular teachers have challenges assessing learners with visual impairments in inclusive classrooms. Worry about giving extra time to learners with visual impairments was ranked first. Number 2 on the list was the inability of learners with visual impairments to write in braille, which makes it difficult for their assessment in written form. Ranking third was the item that says I do not have enough resources to assist me in assessing learners with visual impairments.

6.1.4 Research question 4

Here, teachers were asked to indicate what could be done to address the challenges faced in teaching learners with visual impairments. Support from resource persons to regular teachers was ranked number one. This was followed by the provision of needed material resources to schools to help learners with visual impairments. The third item on the list was found to be making handouts prepared and available in large font and in braille, always available to regular teachers in their classes.

6.2 Conclusions

Based on these key findings, the researcher concludes that regular teachers in Kwabre East municipality face challenges in teaching learners with visual impairments. Again, the age of teaching experience and whether or not a respondent studied special education are associated with pedagogical challenges. In the face of these challenges, there is a possibility that inclusive education policies might not succeed in this Kwabre East Municipality, and learners with visual impairments will continue to be at a disadvantage as far as education is concerned.

6.3 Recommendations

With reference to the observations made from the analysis of the current study, the following recommendations are made, especially to the Ministry of Education and the Ghana Education Service, since they have the mandate of delivering quality education in the country.

It was revealed that studying special education had an influence on teachers' pedagogical challenges. It is therefore recommended that:

The Kwabre East Municipal Education Directorate should conduct periodic in-service training and free refresher courses for teachers who are already in the field since this will help them acquire skills to better position them to teach learners with visual impairments.

➢ Again, a high number of special education coordinators and specialists should be sent to the Kwabre East Municipality to support special education in the municipality. This will help to bridge the inadequate special education expert gap and provide support and guidance to regular teachers in the municipality.

➢ The education directorate, in partnership with the Kwabre East Municipal Assembly through the district chief executive and the Member of Parliament, should prepare a funding package to support indigenous learners who would opt for a special-needs education major at the university with a condition to return to the municipal to teach upon completion. This will encourage a lot of prospective teachers to study special needs education, thereby improving inclusive education in the Kwabre East Municipality.

➢ The Ministry of Education, through the Ghana Tertiary Education Council, should enhance the special education component of the teacher trainee curriculum since the current training given in the curriculum does not seem to prepare teachers enough to handle learners with disabilities.

The study also found that teachers have material resource challenges. As a result, it is recommended that:

> The Kwabre East Municipal Education Directorate should ensure a timely supply of teaching and learning resources as well as specialized equipment and technology such as Jobs Access with Speech, braille readers, recorders, magnifiers, and large print textbooks needed for the teaching of learners with visual impairments.

> Also, the parent-teacher associations in the various schools within the Kwabre East Municipality should make contributions towards the procurement of teaching and learning materials to augment those from the municipal education directorate.

> Non-governmental organizations should direct some of their attention specifically to the education of learners with visual impairments in inclusive schools in the Kwabre East Municipality by supporting them with the needed teaching and learning resources.

> Regular teachers should be adequately motivated to enable them to give their best when teaching learners with visual impairments.

6.4 Suggestion for Further Studies

Since this study focused on teachers, it is further recommended that research be conducted in the Kwabre East Municipality to ascertain the challenges learners with visual impairments face. Again, similar research should be replicated in another municipality to compare the results with the current study.

REFERENCES

Acheampong, E., Atta-Osei, G., Nadutey, A., Bredu-Darkwa, P. & Boatong, G., (2021). Challenges associated with Vocational Rehabilitation for Persons with Disability in the Kumasi metropolis of Ghana. *Disability, CBR & Inclusive Development, 32*(2).

Ajuwom, P.M. (2008. Inclusive education for learner with disabilities in Nigeria Benefits, challenges and policy implication. *International Journal of Special Education, 23*(3)*.

American Foundation for the Blind (2005). Educating learners with visual impairments for inclusion in society: *A paper on the inclusion of learners with visual impairments-Executive summary.* Retrieved from http://www.afb.org/Section. asp? Section ID-44&TopicID-189& Document ID-1344

Annie, P., Ndhlovu, D., & Kasonde-Ng'andu, S. (2015). Challenges in teaching learners with visual impairments in Zambia. *International Journal of Multidisciplinary Research and Development, 2*(4), 157-166.

Ansah, D. O. (2017). Prevalence and causes of visual impairments among patients in Juaben hospital eye clinic, Ghana. *Mathews Journal of Ophthalmology*, *2*(2), 1-5.

Barraga, N. (2007). Program to develop efficiency in visual functioning. American Printing House for the Blind.

Barrett, A. M. (2007). Beyond the polarization of pedagogy: Models of classroom practice in Tanzanian primary schools. *Comparative Education*, *43*(2), 273-294.

Başaran, S. (2012). Teaching English to visually impaired learners in Turkey: A case study. *Energy Education Science and Technology Part B: Social and Educational Studies*, *2*(217-226), 10.

Berhane, Y., Worku, A., & Bejiga, A. (2006). National survey on blindness, low vision and trachoma in Ethiopia. *Addis Ababa: Federal Ministry of Health of Ethiopia*.

Bhatnagar, N., & Das, A. (2014, July). Regular School Teachers' Concerns and Perceived Barriers to Implement Inclusive Education in New Delhi, *International Journal of Instruction, 7*(2), 89-102.

Biddle, S. (2005). Attitudes in education. *The Science Teacher, 73*(3), 52-56.

Bishop, V. E. (2004). *Teaching visually impaired children* (3rd ed.). Charles C Thomas.

Blackorby, J., Chorost, M., Garza, N., & Guzman, A. (2005). The academic performance of elementary and middle school learners with disabilities. *Engagement, academics, social adjustment, and independence: The achievements of elementary and middle school learners with disabilities*.

105

Bornman, J., & Rose, J. (2017). *Believe that all can achieve: Increasing classroom participation in learners with special support needs.* Van Schaik.

Bradshaw, L., & Mundia, L. (2006). Attitudes to and concerns about inclusive education: Bruneian inservice and preservice teachers. *International Journal of Special Education*, *21*(1), 35-41.

Braslavsky, C. (1999). Interregional discussions around inclusive curriculum and teachers in light of the 48th International Conference on Education. UNESCO-IBE.

Bray, M., Brown, A., & Green, T. D. (2004). *Technology and the diverse learner: A guide to classroom practice*. Corwin Press.

Brown, J. E., & Beamish, W. (2012). The changing role and practice of teachers of learners with visual impairments: practitioners' views from Australia *Journal of Visual impairments & Blindness, 81-92.*

Burstein, N., Sears, S., Wilcoxen, A., Cabello, B., & Spagna, M. (2004). Moving toward inclusive practices. *Remedial and Special Education*, *25*(2), 104-116.

Capper, C. A., Rodriguez, M. A., & McKinney, S. A. (2010). Leading beyond disability: Integrated, socially just schools and districts. *Leadership for Social Justice: Making Revolutions in Education, 175-193.*

Carvalho, K. M. D., Monteiro, G. B. M., Isaac, C. R., Shiroma, L. O., & Amaral, M. S. (2004). Causes of low vision and use of optical aids in the elderly. *Revista do Hospital das Clinicas*, *59*, 157-160.

Carvalho, K. M., Monteiro, G. B. M., Rodrigues, I. C., Shiroma, L. O., & Amaral, M. S. (2004). Causes of low vision and use of optical aids in the elderly. *Rev Hosp Clin Fac Med Sao Paulo, 59(4), 157–60.* Available from: http://www.scielo.

Center for Applied Special Technology. (2011c). What is universal design for learning? (Web Page). *Wakefield, MA: CAST*. Retrieved from http://www.cast.org/udl/index.html.

Chhabra, S., Srivastava, R., & Srivastava, I. (2010). Inclusive education in Botswana: The perceptions of school teachers. *Journal of Disability Policy Studies, 20*(4), 219-228.

Churton MW. (2002). The utilization of distance learning and technology for teaching children with disabilities. In JL. Paul (Ed.), Rethinking Professional issues in special education, *Wesport, Greenwood Publishing Group, Incorporated,* pp. 251-266.

Coffield, F., Moseley, D., Hall, E. & Ecclestone K. (2004). Learning styles and pedagogy in post-16 learning. A systematic and critical review, *Learning and Skills Research Centre.*

Cohen, L., Manion, L. & Morrison, K., (2007). Observation. *Research Methods in Education*, *6*, 396-412.

Cox, P. R., & Dykes, M. K. (2001). Effective classroom adaptations for learners with visual impairments. *Teaching Exceptional Children, 33*(6), 68-74.

Creswell, J. W. (2003). *A framework for design. Research design: Qualitative, quantitative, and mixed methods approaches*. pp.9-11.

Crooks, C. V., Jaffe, P. G., & Rodriguez, A. (2010). Increasing knowledge and self-efficacy through a pre-service course on promoting positive school climate: the crucial role of reducing moral disengagement. *Advances in School Mental Health Promotion, 1-16.*

Darkwa, E. (2011). A reflection of teacher's perceptions on the inclusion of children with visual impairments in ordinary schools. *Zimbabwe International Journal of Open & Distance Learning, 1*(1), 56-59.

Datta, A., Bhardwaj, N., Patrikar, S. R., & Bhalwar, R. (2009). Study of disorders of visual acuity among adolescent school children in Pune. *Medical Journal Armed Forces India*, *65*(1), 26-29.

Donald, D., Lazarus, S., & Lolwana, P. (2012). *Educational psychology in social context: Ecosystemic applications in southern Africa.* Oxford University Press.

Ferrel, P. (2002). *The management, role and training of learning assistants*. Crown. (DFEE, Research Report No. 52).

Forlin, C. (2001). Inclusion: Identifying potential stressors for regular class teachers. *Educational Research*, *43* (3), 235-245.

Forlin, C. (2004). Promoting inclusivity in Western Australian schools. *International Journal of Inclusive Education, 8*, 183-200.

Fraser, W. & Maguvhe, M. (2008). *Teaching Life Sciences to Blind and Learners with visual impairments*. University of Pretoria.

Fraser. (2006). An assessment of learners' Environment. *American Educational Research Journal, 48*, 627-643.

Gadagbui, G. Y. (2013). *Exceptionalities, inclusive education, personality disorders and gerontology-The aged Winneba.* University of Education, Winneba.

Gall, M. D., Gall, J. P., & Borg, W. R. (2003). Educational research: An introduction (7th ed.). Boston, MA: Pearson.

Garland-Thomson, R. (2011). Misfits: A feminist materialist disability concept. *Hypatia, 26*(3), 591-609.

Gawe, N., Jacobs, M., & Vakalisa, N. C.G. (2011). Learner-centred methods: In Jacobs, M. Vakalisa, N. C. G., & Gawe, N. (Eds.). (2011). *Teaching-Learning Dynamics* (4th ed.). Pearson Education, 186-213.

Ghana Statistical Service (2013). 2010 population & housing census: *National analytical report. Ghana statistical service.*

Gilbert, C., & Foster, A. (2001). Childhood blindness in the context of VISION 2020: the right to sight. *Bulletin of the World Health Organization*, *79*(3), 227-232.

Grönlund, Å., Lim, N., & Larsson, H. (2010). Effective use of assistive technologies for inclusive education in developing countries: Issues and challenges from two case studies. *International Journal of Education and Development using ICT*, *6*(4), 5-26.

Gual, J., Puyuelo, M., & Lloveras, J. (2011). Universal design and visual impairments: Tactile products for heritage access. *International Conference on Engineering Design, Copenhagen, Denmark, 5*(11), 155-164.

Halleman, A. (2016). Motor development in visually impaired children. *Dev. Med. Child Neurol*, *58*, 114.

Hatlen, P. (2005). Is Social Isolation a Predictable Outcome of Inclusive Education? [Electronic Version]. *Journal of Visual impairments & Blindness*, *98*.

Heale, R. & Twycross, A., (2015). Validity and reliability in quantitative studies. *Evidence-based Nursing*, *18*(3), pp.66-67.

Hettiarachchi, S., & Das, A. (2014). Perceptions of 'inclusion' and perceived preparedness among school teachers in Sri Lanka. *Teaching and Teacher Education, 43*, 143-153.

Heward, W. L., & Wood, C. L. (*2006). Exceptional children: An introduction to special education* (p. 672). /Prentice Hall.

IBE (2008). Report on the International Conference on Education: Sub themes and Regional trends on Inclusive Education. Geneva, Switzer land. UNESCO IBE. *Teaching children and youths with visual impairments* (2nd ed., Vol. 2, pp. 785–791). American Foundation for the Blind.

IBE (2008). *Report on the preparatory conference of the African region for the 48th session of the ICE: Curriculum issues and Inclusive Education.* Yaoundé, Cameroon, P.345.

implementation of inclusive education. *Disability Studies Quarterly, 25*(2).

Individuals with Disabilities Act. (2004). Retrieved from http://idea.ed.gov/explore/review/p/,root,regs,300%252E8.

Jenkins, R. J., Antil, L. L., Wayne, S. K., & Vadasy, P. F. (2003). How cooperative learning works for special education and remedial learners. *Council for Exceptional Learners*, *69*(3), 279-292.

Johnsen, B. H. (2001). Curricula for the Plurality of Individual Learning Needs. *Education–Special Needs Education. An Introduction, 255-304.*

Johnson, A., (2001). Attitude towards mainstreaming: Implication for in-service training and teaching the handicapped. *Education, 107,* 229-233.

Jonnaert, P. & Ettayebi, M. (2008). *Curriculum and skill: an operational framework.* De Boeck Sperior.

Keeffe, J., & Resnikoff, S. (2019). Prevalence and causes of vision impairment and blindness: the global burden of disease. In *Innovative Approaches in the Delivery of Primary and Secondary Eye Care* (pp. 7-20). Cham.

Khanna, R. C., Murthy, G. V., Giridha, P., Krishnaiah, S., Pant, H. B et al. (2013). Cataract, visual impairments and long-term mortality in rural cohort in India: The Andhra Pradesh Eye Disease Study. *PLoS One, 8(*10), e78002.

Koenig, A. J. & Holbrook, M. C. (Eds.) (2000). *Foundations of education: Instructional strategies for access to Education.* Retrieved from www.eenet.org.uk/resources/does learning from_diffe_yes pdf.

Kumar, D. D., Ramasamy, R., & Stefanich, G. P. (2001). *Science for Learners with Visual impairments: Teaching Suggestions and Policy Implications for Secondary Educators*. Retrieved from the internet http://unr.edu/homepage/crowther/ejse/kumar2etal.html.

Lambe, J. & Bones, R. (2006). Learner teachers' perceptions about inclusive classroom teaching practices in Northern Ireland prior to teaching experience. *European Journal of Special Needs Education, 21*(2), 167-1 86. Retrieved September 29, 2007 from ERIC Digest database.

Lewis, I. & Little, D. (2007). *Report to Norad on Desk Review of Inclusive Education Policies and Plans in Nepal*. Vietnam and Zambia. Retrieved from: http://www.eenet.org.uk/resources/docs/Policy_review_for_NORAD.pdf.

Lewis, I., & Bagree, S. (2013). Teachers for all: Inclusive teaching for children with disabilities. *International Disability and Development Consortium Report.* Enabling Education Network.

Liu, Y. C., Wilkins, M., Kim, T., Malyugin, B., & Mehta, J. S. (2017). Cataracts. *The Lancet*, *390*(10094), 600-612.

Lomofsky, L., & Lazarus, S. (2001). South Africa: first steps in the development of an inclusive education system. *Cambridge Journal of Education, 31*(3), 303-317.

Lumadi, M. W., & Maguvhe, M. O. (2012). Teaching life sciences to blind and learners with visual impairments: Issues to consider for effective learning mediation practice. *Anthropologist*, *14* (5), 375- 381.

M'kabira, P. N. (2020). *Factors impeding teaching performance of teachers with visual impairments in public primary school in Merucounty.*

Maberley, D. A. L., Hollands, J., Chuo, G, Tam, G., KonkaL, M., & Basset, K. (2006). The prevalence of low vision and blindness in Canada. *Eye, 20*(3), 341-346.

Mastropieri, M. A., & Scruggs, T.E. (2010). *The Inclusive Classroom: Strategies for Effective Differentiated Instruction.* Upper Saddle River.

Masuku, E., (2010). *School principal's experiences of the decentralization policy in Zimbabwe*. (Doctoral dissertation, Stellenbosch: university of Stellenbosch).

Mboshi, N. S. (2018). Teaching learners with visual impairments in an inclusive education setting: The Cameroon perspective. *International Journal of Education and Research*, *6*(2), 109-118.

McGinnity, B.L., Seymour-Ford, J. & Andries, K.J. (2004). *Founders. Perkins History Museum.* Perkins School for the Blind.

McLoughlin, J.A. & Lewis, R.B. (2005). *Assessing Learners with Special Needs* (6th ed)*.* Pearson Education, Inc.

Melese, A. A. (2018). *An assessment of teachers' practice, Opportunities and Challenges in teaching learner with visual impairments in the integrated primary schools of Gondar City* (Masters' thesis).

Mertler C. A. (2014). *Quantitative research methods.* Sage Publications, Inc.

Miles, S (2003). *Learning from Difference: Understanding community initiative to improve.*

Milian, M., Pearson, V. (2005). Learners with visual impairments in a dual-language program: A case study. *J Visual impairments Blindness, 99*.

Ministry of Education (2013). *Education Sector Performance Report, 2013. Government of Ghana.*

Mitchell, D. (2008). *What Really Works in Special and Inclusive Education: Using Evidence Based Teaching Strategies*? Taylor & Francis Group.

Mitsuhiro, M. H., Berezovsky, A., Belfort Jr, R., Ellwein, L. B., & Salomao, S. R. (2015). Uptake, barriers and outcomes in the follow-up of patients referred for free-of-cost cataract surgery in the Sao Paulo eye study. *Ophthalmic Epidemiology*, *22*(4), 253-259.

Morin, A. (2014). *The everything parent's guide to special education. A complete step-by-step guide to advocating for your child with special needs.* Simon and Schuster.

Morny, E. K. (2016). *Using electrophysiology to explore retinal function in autosomal dominant optic atrophy*. (Doctoral dissertation, Cardiff, University).

Morris, M. W., Golinker, L. A., Bailey, M. N., & Moore, K. L. (1991). Assistive technology: *A funding workbook.* RESNA PRESS.

Mugambi, M., (2011). *Challenges facing teachers teaching learners with visual impairments in integrated school: A case study of Moi girls school.* Kenyatta University.

Mulloy, A. M., Gevarter, C., Hopkins, M., Sutherland, K. S., & Ramdoss, S. T. (2014). Assistive technology for learners with visual impairments and blindness. In Assistive technologies for people with diverse abilities (pp. 113-156). Springe.

Mushoriwa, T. (2001). Research Section: A study of the attitudes of primary school teachers in Harare towards the inclusion of blind learners in regular classes. *British Journal of Special Education, 28*(3), 142-147.

Mutia, T. O. (2020). *Challenges in Teaching Visually Impaired Learners in Kenya-the Case Study of Kitui Secondary School in Kitui Central* (Doctoral dissertation, University of Nairobi).

Mwakyeja, B. M. (2013). *Teaching Learners with visual impairments in inclusive Classroom: A case study of one secondary school in Tanzania* (Master's thesis).

Ndurumo M.W. (1993). *Exceptional children.* Nairobi: Longman

New Brunswick Association for Community Living (2007). *Brief on System Barriers to Implementing Inclusive Education in New Brunswick*. Retrieved from: http://www.inclusiveeducation.ca/documents/Brief%20on%20Systemic%20B arriers. Pdf.

Nishan, F. (2018). Challenges of Regular Teachers in Implementing Inclusive Education in Schools of Maldives. *International Journal of Education, Psychology and Counselling, 3*(10)*, 88-102.*

Niwagaba, G. (2014). *Including and teaching blind children in ordinary classrooms Teaching tools teachers use and their influence on the inclusion of blind children ordinary classrooms in a primary school (Master's thesis).*

Obaid, M.A.S. (2013). The impact of using multi-sensory approach for teaching learners with learning disabilities. *Journal of International Education Research*, *9*(1), 75. Irbid University.

Obi, F. B., & Mensah T. (2005). Inclusive Education: the challenges of the 21st Nigerian-Ghanaian teacher. *African Journal of Special Educational Needs, 4*(1), 19-27.

Ocloo, M.A. (2011). *Effective education for persons with visual impairments in Ghana*. University of Education, Winneba.

Oliver, R. M., & Reschly, D. J. (2010). Special education teacher preparation in classroom management: implication for learners with emotional and behavioural disorders. *Behavioural Disorders, 35*(3), 188-199.

Opertti, R. (2008). *Inclusive Education: the way of the future. In the 48th session of the international conference of education* IBE/UNESCO. Retrieved from http://www.ibe.unesco.org/cops/workshops/China/Renato.

Opertti, R. (2010). Inclusive curricula: An agenda to strengthen the Education for All framework. *Paper presented at the Chinese-European Conference on Curriculum development*.

Oppong-Boateng, R. (2020). *Teachers' experiences with inclusive education in the Ashanti Region of Ghana.* (Master's thesis).

Osero, P. O., (2015). *Challenges teachers encounter in implementing inclusive education in public primary schools in Nairobi.* (Master's thesis).

Osuala, E.C., (2005). *Introduction to research methodology: The millennium edition.* Cheston Agency.

Pascolini D., & Mariotti S. (2010). Global estimates of visual impairments. British Journal Ophthalmology Online. Retrieved from 138 http://www.icoph.org/dynamic/attachments/resources/global_est_vi_2010_pas coli ni_mariotti_nov_11.pdf.

Paul, M. (2014). Ensuring quality provision of education for all: Discovering challenges faced by teachers of learners with learning disabilities in regular primary schools in Masvingo District. *International Journal of Public Policy and Administration Research*, *1*(1), 26-37.

Pintanel, A. C., Gomes. G. C., & Xavier, D. M (2013). Mothers of visually impaired children: Difficulty and easy aspect faced in care. *Revista Gaucha de Emfermagem, 32*(2), 86-96.

Porter, G. L., Smith, D., Timmons, V., Kelly, B., & Richler, D. (2011). *Exploring Inclusive Education Practices through professional Inquiry*. Sense Publishers, Rotterdam/

Pugach, M. C., Blanton, L. P., & Florian, L., (2012). Unsettling conversations: Diversity and disability in teacher education. *Journal of Teacher Education, 63*(4), 235-236.

Rim, T. H., Nam, J. S., Choi, M., Lee, S. C., & Lee, C. S. (2014). Prevalence and risk factors of visual impairments and blindness in K Orea: the Fourth KnOrea National Health and Nutrition Examination Survey in 2008–2010. *Acta ophthalmologica*, *92*(4), e317-e325.

Rooks, D. L. (2009). *Science for All: Experiences and outcomes of learners with visual impairments in a guided inquiry-based classroom.* (Doctoral dissertation). University of Arizona.

Rooks, D. L., & Maker, C. J. (2009). Inquiry: A teaching approach for gifted learners with visual impairments. *Gifted Education International*, *25*, 172-187. SAGE Publisher.

Rule, A. C., Stefanich, G. P., Boody, R. M., & Peiffer, B. (2011). Impact of adaptive materials on teachers and their learners with visual impairments in secondary science and mathematics classes. *International Journal of Science Education, 33*(6), 865-887.

Sacks, S. Z. & Silberman, R. K. (1998). *Educating Learners Who Have Visual impairments with Other Disabilities.* Paul H. Brookes Publishing Co.

Salamanca Statement and Framework for Action on Special Needs Education (1994). *World conference on special needs education*. Access and Quality, UNESO.

Salisbury, R. (2008). *Teaching Pupils with Visual impairments: A guide to making the School Curriculum Accessible.* Taylor & Francis Group.

Saskatchewan. Department of Learning. Special Education Unit. (2003). *Teaching learners with visual impairments: A guide for the support team.* Saskatchewan Learning.

Schoeman, M. (2012). *The implications of the South African Inclusive Education policy for parents and children with Down syndrome: A paper presented at the* 12th World Down Syndrome Congress.

Sekaran, U. (2003). *Research methods for business: A skill building approach* (4th ed.). John Wiley and Sons

Seland, J. H., Vingerling, J. R., Augood, C. A., Bentham, G., Chakravarthy, U., deJong, P. T., & Fletcher, A. E. (2011). Visual impairments and quality of life in the older European population, the EUREYE study. *Acta ophthalmologica*, *89*(7), 608-613.

Serpell, R. & J. Jere-Folotiya, (2011). Basic education for children with special needs in Zambia: Progress and challenges in the translation of policy into practice. *Psychology and Developing Societies SAGE Publications, 23*(2), 211–245.

Sharma, U., Forlin, C., Deppeler, J., & Yang, G. X. (2013). Reforming teacher education for inclusion in developing countries in the Asia-Pacific region. *Asia Journal of inclusive Education,* 1(1), 3-16.

Sikanku, S. T. (2018). Challenges in teaching pupils with visual impairments in inclusive classrooms: The experience of Ghanaian teachers. *Journal of Research on Humanities and Social Sciences*, *8*(11).

Silberman, R. K., Bruce, S., & Nelson, C. (2004). Children with sensory impairments. In F. P. Orelove, D. Sobsey, & R. K. Silberman (Eds*.), Educating children with multiple disabilities.* Brooks Publishing.

Simon, C., Echeita, G., Sandoval, M. & Lopez, M. (2010).*The Inclusive Educational Process of Learners with Visual impairments in Spain: An Analysis from the Perspective of Organization.*

Singal, N. (2005a). Responding to Difference: Policies to Support 'Inclusive Education in India. *Inclusive and Supportive Education Congress 2005.* University of Strathclyde.

Smidt, S. (2009*). Introducing Vygotsky: A guide for Practitioners and Learners in Early Years Education.* Taylor & Francis Group.

Spungin, S. J., & Ferrell, K. A. (2000). *The role and function of the teacher of learners with visual handicaps.*

Spungin, S.J. (2002). *When You Have a Visually Impaired Learner in Your Classroom: A Guide for Teachers.* AFB Press.

Subban, P., & Sharma, U. (2005). Understanding educator attitudes toward the

Suvak, P. A. (2004). What do they really do? Activities of teachers of learners with visual impairments. *RE: View*, *36*(1), 22.

Taherdoost, H., (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management (IJARM* 5. hal-02546796.

Tanyi, M. E. (2016). Pedagogic barriers in Cameroon inclusive classrooms: The impact of curriculum, teachers' attitudes and classroom infrastructure. *Journal of Education and Practice, 7(18), 210-221.*

Tirusew, T. (2005). *Resilience and Success of Persons with Disabilities in Ethiopia: An article extracted from the book entitled "Disability in Ethiopia: Issues, Insights and Implications".* Addis Ababa Printing Press.

Tobias, E. I. (2017). Teachers' experiences with strategies for teaching learners with visual impairments in Oshana Education Region-Namibia. (*Doctoral Dissertation, University of Botswana, www.ub.bw).*

Trochin, W. M. K. (2000). *Research methods knowledge Base*. McGraw-Hill.

Tsokova, D., & Tarr, J. (2012). *Diverse perspective on inclusive school communities.* Rutledge.

UNESCO (2001). *Understanding and Responding to Children Needs in Inclusive Classrooms*: *A guide for Teachers*. UNESCO.

Van Reusen, A. K., Schoho, A. R., & Barker, K. R., (2000). High school teacher attitudes toward inclusion. *The High School Journal,* 84(2), 7-20.

Van Wyk M. M. (2007). *The use of cooperative learning in economics in the further education and training phase in the Free State province*. PhD. Thesis. University of the Free State.

Wade, S. E. (2000). *Inclusive education: A casebook and readings for prospective and practicing teachers*.

Wedner, S. H., Ross, D. A., Balira, R., Kaji, L., & Foster, A. (2000). Prevalence of eye diseases in primary school children in a rural area of Tanzania. *British Journal of Ophthalmology*, *84*(11), 1291-1297.

WHO. (2011). *World Report on Disability. WHO Press, World Health Organization*, 20 Avenue Appia, 1211 Geneva 27.

Wilmshurst, L., & Brue, A.W. (2005). A Parent's Guide to Special Education: Insider Advice on How to Navigate the System and Help Your Child Succeed (Ed), *Paperback: AMACOM.*

114

Wolf, W. (1980). *Social integration and human services*. Baltimore: University Park Press.

Yalo, J. A., Indoshi, F. C., Agak, O. J. & Ware, C. M. (2010). *Challenges and strategies of working with learners with low vision: Implications for teacher, training.* Retrieved on 3/09/2016 from the http://www.interesjournals.org/Er.

Zebehazy, K. M., & Wilton, A. P. (2014). Quality, importance, and instruction: The perspectives of teachers of learners with visual impairments on graphics use by learners. *Journal of Visual impairments & Blindness.*

Zikmund (2002). *Business research methods.* Thompson Learning.

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APPENDIX A

INTRODUCTION LETTER

DEPARTMENT OF SPECIAL EDUCATION

UNIVERSITY OF EDUCATION, WINNEBA

(UEW)

OFFICE OF THE HEAD OF DEPARTMENT

8TH February, 2022

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……………………………….

………………………………

LETTER OF INTRODUCTION

I write to introduce to you, Mr. Douglas Fofie, an M.Phil student of Department of Special Education of the University of Education, Winneba, with registration number 202140165.

He is currently working on the *"Teaching learners with visual impairments in inclusive schools in the Kwabre East Municipality, Ghana"*.

I should be grateful if permission would be granted him to enable him carry out his studies in your institution.

Thank you.

Dr. Daniel Fobi PhD (ToD), MPhil, BEd (SPEd)

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APPENDIX B

QUESTIONNAIRE

TOPIC: TEACHING LEARNERS WITH VISUAL IMPAIRMENTS IN INCLUSIVE SCHOOLS IN THE KWABRE EAST MUNICIPALITY, GHANA

My name is Douglas Fofie, an M.Phil learner at the University of Education, Winneba. As a partial requirement towards the completion of my study, I am conducting a study to examine the challenges teachers face in teaching learners with visual impairments. The questionnaire will solicit your views on the various challenges you face as you strive to educate learners with low vision. Please do not write your name on this questionnaire. Your responses will be anonymous and will never be linked to you personally. Your participation is utterly voluntary. If there are items that you do not feel comfortable answering, please skip them. Thanks for your cooperation.

INSTRUCTION

The questionnaire has five parts. Answer Part 1 by ticking the most appropriate response or indicating your answer in the space(s) provided. In the next 4 Parts Indicate your agreement or disagreement with the various statements by ticking your response using this scale: 1 = STRONGLY DISAGREE (SD) 2 = DISAGREE (D) 3 = NEUTRAL (N) 4 = AGREE (A) 5 = STRONGLY AGREE (SA)

PART 1: DEMOGRAPHIC INFORMATION
Please tick the most appropriate response

Gender: Male [   ]   Female [   ]

Age: 20-25 [   ]   26-30 [   ] 31-35 [   ] 36-40 [   ] 45 and above [   ]

Teaching experience: 1-5 [   ]   6-10 [   ]   11-15 [   ]   16 and above [   ]

Studied special education: Yes [   ]   No [   ]

Part 2: Pedagogical challenges faced by Regular teachers

	STATEMENT	SD	D	N	A	SA
1	I do not have the requisite training to teach learners with visual impairments in regular classroom					
2	I have difficulty in developing individualized educational plan (IEP) for each learner with visual impairments in the classroom.					
3	Planning a variety of presentation modes in textual, verbal, and visual, so as to accommodate for the needs of Learners with visual impairments a challenge.					
4	I cannot adapt the content of the curriculum to suit the diverse needs of learners with visual impairments in the classroom					
5	I have difficulty in adapting instructions with ease in order to assist learners with visual impairments to learn with ease.					
6	I have competence in adopting cooperative group learning in addressing the learning needs of learners with visual impairments in the classroom.					
7	I have difficulty in adapting Inquiry-oriented-based strategy in teaching learners with visual impairments.					
8	I use multisensory teaching strategies to teach learners with visual impairments.					
8	Adopting universal design in teaching to teach learners with visual impairments is a difficult task.					
10	I can use simulation in different situation explain the content of my lesson to learners with visual impairments.					

APPENDIX C

Part 3: Material Resource Challenges for Regular Teachers

	STATEMENT	SD	D	N	A	SA
12	I have access to brailed text books for pupils with visual impairments.					
13	Inadequate braille and embossers make it difficult to teach learners with visual impairments.					
14	Inadequate tangible objects such as talking calculator affect the teaching and learning of learners with visual impairments.					
15	Inadequate speech readers for learners with visual impairments make difficult for my lessons.					
16	Optical devices are available in my school for assisting pupils with visual impairments.					
17	Inadequate technologies like job access with speech for learners make it a challenge in teaching learners with visual impairments.					
18	Learners have tape recorders to aid them after class					
19	There are inadequate tactile materials for teaching learners with visual impairments.					
20	Inadequate funds make it difficult to procure needed teaching and learning materials/resources for learners with visual impairments.					
21	Instructional materials audio books and for teaching learners with visual impairments are available in my school.					
22	My school receives specialized equipment like braille note taker and voice recorder from the Ghana Education Service to teach learners with visual impairments.					

APPENDIX D

Part 4: Challenges Regular Teachers Face in Assessing Learners with Visual impairments.

	STATEMENT	SD	D	N	A	SA
23	Large print reading materials are provided for learners when assessing them.					
24	I cannot braille and transcribe assignment of learners with visual impairments in my class.					
25	I give class exercises and assignments that suit the ability of learners with visual impairments.					
26	During assessment, I have to read questions for learners with visual impairments.					
27	Giving extra time for learners with visual impairments is worrying to me as a regular classroom teacher.					
28	Inability of learners with visual impairments to write in braille makes it difficult for me to assess them in written form.					
29	Adapting written texts for learners with visual impairments pose a challenge to me during assessment.					
30	I do not have the skills necessary for assessing learners with visual impairments.					
31	I have skills necessary for assessing learners with visual impairments.					
32	I do not have resource persons to assist me in assessing learners with visual impairments.					
33	Demonstration as assessment method is difficult to adopt.					
34	I have adequate knowledge to use role play as assessment method to assess learners with visual impairments.					
35	Projects are not effective tool to assess learners with visual impairments.					

APPENDIX E

Part 5: Measures that can be put in place to address challenges teachers face in teaching learners with visual impairments.

	STATEMENT	SD	D	N	A	SA
36	Regular teachers need sufficient knowledge in the education of learners with visual impairments.					
37	The needed material resources should be provided in my school to help learners with visual impairments.					
38	Sufficient time allowance should be given to learners with visual impairments during assessment.					
39	Supports from resource persons should be provided to teachers					
40	Teachers should be adequately motivated in order to help Learners with visual impairments.					
41	Hand-out prepared and available in large font and in Braille should always be available in my class.					
42	Effective and appropriate teaching strategies should be the hallmark of regular teachers.					
43	Group discussions and co-operative learning should be employed in my teachings.					
44	Collaboration between teachers and parents must be enhanced					
45	Special education aspect of teacher trainee curriculum must be improved.					
46	In-service training and free refresher courses should be made available to teachers					
47	Teachers should adopt collaborative teaching and learning styles for teaching learners with impairments					
48	NGOs should focus some of their attention on the education of learners with visual impairments					