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INCLUSION OF STUDENTS WITH VISUAL IMPAIRMENTS IN REGULAR SCHOOLS OF ADDIS ABABA: ANALYSIS OF FACTORS AFFECTING TEACHERS' PRACTICES

Ermias Kibreab Tesfaye

**A Thesis Submitted to
The Department of Special Needs and Inclusive Education
Presented in Fulfilment of the Requirements for the Degree of Doctor of
Philosophy (Special Needs & Inclusive Education)**

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**A Dissertation Presented to the Department of Special Needs & Inclusive
Education, College of Education and Behavioural Studies**

In Fulfilment of the Requirements for the Degree of Doctor of Philosophy

Ermias Kibreab Tesfaye

Addis Ababa University

Addis Ababa, Ethiopia

June 2024

Addis Ababa University
School of Graduate Studies

This is to certify that the dissertation prepared by Ermias Kibreab Tesfaye, entitled: *Inclusion of Students with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices* and submitted in partial fulfilment of the requirements for the Degree of Doctor of Philosophy (Special Needs & Inclusive Education) complies with regulations of the university and meets the accepted standards with to originality and quality.

Signed by the Examining Committee:

Signature

Date

External Examiner

Internal Examiner

Advisor

Chair, Department Graduate Committee

Dedication

This dissertation is dedicated to my late father, Kibreab Tesfaye, who has been great dad, teacher and source of inspiration to the family.

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Without the guidance and protection of the All-Powerful God, the journey would not have been accomplished, so I praise my God for this. Then, I would like to express my sincere gratitude to Dr. Belay Hagos, my dissertation advisor, for his invaluable guidance, support and encouragement throughout my PhD journey. His expertise, insights and patience have been critical in shaping the focus and quality of this dissertation.

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List of Acronyms and Abbreviations

AACAEB	Addis Ababa City Administration Education Bureau
AAU	Addis Ababa University
CRPD	Conventions on the Rights of Persons with Disabilities
CWD	Children with Disabilities
ESDP	Education Sector Development Programme
GTP	Growth and Transformation Plan
IE	Inclusive Education
IEP	Individualised Education Programme
IERC	Inclusive Education Resource Center
JAWS	Job Access with Speech
KII	Key Informant Interview
LSEN	Learners with Special Educational Needs
MMR	Mixed Methods Research
MoE	Ministry of Education
SNE	Special Needs Education
SVI	Students with Visual Impairment
SNNP	South Nations Nationalities and Peoples
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	The United Nations International Children's Emergency Fund

UPIAS Union of the Physically Impaired Against Segregation
USAID The United States Agency for International Development
VI Visual Impairment

Abstract

Inclusion of Students with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices

Ermias Kibreab Tesfaye

Addis Ababa University, 2024

The present study was designed to investigate factors affecting teachers' practice of inclusive instruction strategies used to teach students with visual impairments (SVI) in regular primary and secondary schools of Addis Ababa, Ethiopia. An explanatory sequential mixed-methods study design was used. Data, from 421 teachers who were randomly selected from Addis Ababa's 19 primary and 15 secondary schools, was gathered using a survey questionnaire. Additionally, 100 SVI provided quantitative data for the study. Qualitative information was gathered from Special Needs Education (SNE) specialists, SVI and teachers, using semi-structured interview. The quantitative data was analysed using SPSS 20. A hierarchical multiple linear regression analysis was used to examine the influence of independent variables (demographic information, knowledge, self-efficacy & attitudes) on the dependent variable (teachers' practice of inclusive instruction strategies used in teaching SVI in regular schools). With regard to the analysis of the qualitative data, thematic analysis was used. This study demonstrated a moderate level of teachers' practice of inclusive instruction strategies in teaching SVI ($M=2.69$ out of 4, $SD=0.83$). Training on SNE/IE, Teachers' self-efficacy and attitude were found out to be significant predictors of practice, whilst knowledge is not a significant predictor. All the independent variables together explained 31.4% of the variance in practice, of which self-efficacy accounted for 25.5% of the variance in practice. According to the results of the qualitative study, establishment of Inclusive Education Resource Center (IERC) and deployment of SNE specialists at schools were considered promising practices in improving quality of inclusive education at schools. Multiple challenges were also identified with regard to the availability of resources and disability specific supports for SVI. Conclusion and possible implications for practice were indicated.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The notion of universal education has evolved over time, incorporating many approaches to meeting the needs of children with disabilities and learning difficulties. Offering instruction in both segregated and integrated situations were the strategies employed for students with disabilities and specific educational requirements. Children with disabilities will attend separate schools or classrooms and will not have the chance to interact with peers who do not have disabilities in a segregated educational environment. According to UNESCO (2018), health experts were in charge of these children's education when they were in the segregated form. Hayes and Bulat (2017) indicated that such schools as non-inclusive model of special education which children diagnosed with similar disabilities attend instructions focusing on life skills rather than literacy or math skills. The integrated approach, according to Hayes and Bulat (2017), takes two forms. The first is the integrated classroom in regular schools which include students with disabilities without providing disability specific supports needed for such students. The second form is when students with disabilities are integrated in to schools but attending instructions predominantly in specialized classrooms. As a result, students with disabilities have minimal connection with students without disabilities in both forms of integrated education and frequently lack access to the national curriculum. Through time, these approaches were challenged by a number of countries to move towards including children with disabilities in the regular schools. This is because inclusive education can provide learning opportunities, within the regular school

system, for those groups who have been excluded in the past. The goal of inclusive education is to ensure that every child attending the same neighbouring school with same learning opportunities like their sisters and brothers and participate in the academic and social activities in the classroom (Martinez and Porter, 2018).

The issue of inclusive education has received an international attention through gradual process and the 1994 Salamanca Statement has laid a basis in enhancing implementation of inclusive education across the globe. The declaration urges that ‘those with special educational needs must have access to regular schools which should accommodate them within a child-centred pedagogy capable of meeting these needs’ (p.viii). The 2000 Dakar Framework for Action and the 2006 Conventions on the Rights of Persons with Disabilities (CRPD) have their contribution for the development of inclusive education globally which was laid on the principles of equal opportunity for all (UNESCO, 2018). The 2030 Sustainable Development Goal on education also anticipates to ‘Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all’ (UN, 2015, p.7). This particular goal promotes enhanced access to quality learning for all, quality of education, and equity in education. The concept of inclusive education requires including all learners and promotes the idea of ‘every learner matters and matters equally’ (UNESCO, 2017, p.12) and it demands for ensuring that each individual has an equal and personalized opportunity to make educational progress. Symes and Humphrey (2012) assert that inclusive education goes beyond the discussion point of where a child is educated; mainstream or special schools. The researchers contend that it should take into account the quality of education for all learners by considering and valuing presence of all students irrespective of their disabilities/needs, promoting their active participation and acceptance by their teachers and peers. UNESCO (2018) supports this viewpoint, arguing that inclusive education shouldn’t be limited to

as to where education takes place but consider issues such as "the content of education and learning materials, teaching and teacher preparation, infrastructure and learning environment, community norms, and the availability of space for dialogue and criticism involving all stakeholders" (p.4).

Numerous studies have revealed that teachers are important factors in determining the success of inclusive education. However, they can be a major barrier if they do not know and support inclusion, or if they lack the skill or developed negative attitude towards inclusive education (Ackah-Jnr, 2010; Horton, 1988; Lamichhane, 2017; Rieser, 2012). According to Blecker & Boakes (2010), teachers' attitudes, knowledge, and skills are crucial professional competencies needed for the implementation of inclusive educational practices. Previous research revealed that a number of teacher-related factors, such as teachers' lack of confidence in their ability to manage students with disabilities (Gray, 2009), their lack of training on regular class teachers (Pagliano, 1998), and the rigid teaching strategies in classroom instructions (Cox & Dykes, 2001), all posed challenges to the success of inclusive education. Mu et al. (2015) also recognized attitude and knowledge as the main pillars of professional competence of teachers affecting inclusive education practices. Along with their attitudes, teachers' self-efficacy beliefs have been found to be crucial for inclusive education (Savolainen et al., 2022; Werner et al., 2021). Tseeke (2021) also underscored the importance of teachers' self-efficacy in responding to varied needs of students with disabilities enrolled in regular schools under the auspices of inclusive education. The main focus of this study is to assess how teachers' professional competence is affecting their inclusion practice in regular schools, which particular emphasis on inclusion of students with visual impairments (SVI). This study, therefore, examined the effect of teachers' knowledge, self-efficacy and attitudes on their practices of inclusive instruction strategies to teach SVI in regular primary and secondary schools of Addis Ababa, Ethiopia.

The other factor that affects inclusive education practices is the availability of support aligned with the unique needs of students with varied disabilities. As a matter of principle, children with special educational needs should be provided with whatever additional support they require in inclusive schools in order to receive an effective education (UNESCO, 1994, p. 11). In line with this, article 24 of the CRPD states that “persons with disabilities receive the support required, within the general education system, to facilitate their effective education’ (United Nations, 2006, p.17). The kind of supports suggested to respond to diverse needs of students include availing appropriate curricula, arranging school support mechanisms and appropriate resources (Corbett, 2003; Gajewski, 2014; Howgego, Miles & Myers, 2014; Loreman et al., 2005; Oseroff, Koorland & Maratea, 1987; Pogrud, 2018; Rieser, 2012; Willings, 2016), providing additional curriculums (Davis and Hopwood, 2002; Lamichhane, 2017) and implementing Individual Education Plan (IEP) (Sightsavers, 2018; UNESCO, 2001). Therefore, availability of disability-specific resources and support services for students with visual impairments (SVI) was assessed at primary and secondary schools along with challenges that such students were facing in regular schools.

1.2 Statement of the Problem

Ethiopia has ratified international treaties such as the 2006 UN CRPD in order to provide quality education to all citizens, including children with disabilities and special educational needs. Furthermore, a number of policy and legal frameworks, strategies, guidelines, manuals, and directives were locally prepared to support inclusive education practices in regular schools. In the Ethiopian education sector, the first SNE program strategy was designed in 2006 with prime focus of promoting inclusive education (Ministry of Education (MoE), 2012). A considerable amount of literature has been published on factors that affect successful inclusion of children with disabilities in regular classrooms. Teachers attitude towards inclusion, poverty, discriminatory attitude,

inflexible curriculum, poor quality training of teachers, lack of physical accessibility, lack of resources and materials were some challenges indicated in previous studies (Wondwosen, Yitayal & Semahegn, 2014; USAID, 2010; Van Reusen et.al., 2001). Lack of well-trained and informed teachers, inaccessible schools, large and crowded classes, and limited specialized equipment were also pinpointed as challenges in implementation of inclusive education in Ethiopian schools (MoE & UNICEF, 2012; Tirusew, 1999).

In Ethiopian context, previous research endeavors on education of SVI have mainly focused on challenges that such children face in inclusive education setting. Anto (2004), Demetros (2007), Wondimagegn (2014), Awetash (2015) and Zebiba (2020), for example, conducted studies that focused on assessing educational and psychosocial challenges that SVI faced in regular classrooms. Amare (2015) drew attention to the challenges in accommodating the needs of students with visual impairment in Ethiopian national examinations. Abera (2021) assessed the readiness of schools in Sebeta (Oromia) to teach SVI as well, noting issues such as teachers' lack of knowledge about students need, shortage of materials like Braille, negative attitude of teachers, and poor physical environment. Similar findings were earlier reported by Kebede (2015) including negative attitude of teachers and sighted learners towards learners with low vision and also social isolation and withdrawal of such children in Soddo town. Furthermore, a study conducted by Rachel (2016) in Gondar, Northern Ethiopia, underlines that school teachers lack inclusive education techniques to deal with children with visual impairment in regular classrooms. Lack of on job training opportunities on inclusive education for school teachers was also reported by Meskerem (2017) conducted in SNNP region of Ethiopia. Teachers' lack of skill in managing SVI in regular classrooms, teachers' inability to adapt and change teaching approaches, and teachers' lack of inclusive education techniques to deal with such children in regular classrooms were all

identified in local studies (Abeya, 2014; Anto, 2004; Meskerem, 2017; RTI, 2017). Additionally, a number of studies indicate that schools' physical environment as not convenient for SVI. For instance, Abiyot's (2014) study conducted in Sebeta, Oromia indicated that classrooms lack adequate lighting for children with low vision and no enough space was available for movement. Anto (2004) also indicated the inconvenience of school compound for such children.

In Ethiopian context, factors affecting teachers' practice of teaching SVI in regular schools were not assessed by previous research activities. Previous research has not been able to provide evidence about how teachers' professional competencies—such as knowledge, self-efficacy, and attitude—affect how they use inclusive instruction strategies while teaching students with visual impairment in inclusive education setting at regular schools. They don't statistically show the relationship between the study variables. Due to the dearth of research on the subject, this study assessed factors that affect teachers' practice of inclusive instruction strategies in teaching SVI in regular schools. Teachers' practices of inclusive instruction strategies in teaching children with visual impairment was determined by their knowledge of inclusive instruction strategies, their self-efficacy to teach SVI, and their attitude towards inclusion of such students in regular schools. The study also explored available supports, resource provisions, trainings arranged at government primary and secondary schools for SVI. Students with visual impairment have also reflected their opinion on challenges they encountered and the support they received in classrooms by their teachers in particular and supports available at school level in general.

1.3 Research Objectives

The main objective of this study is to investigate factors affecting teachers' practice of inclusive instruction strategies to teach *SVI* in regular schools and the problems such students faced in regular schools of Addis Ababa. The specific objectives of the study are intended to:

- identify teachers' understanding of inclusive instruction strategies used to teach *SVI* in regular schools
- assess self-efficacy of school teachers regarding their belief in their ability to teach *SVI* in regular schools
- explore the attitude of school teachers towards inclusion of *SVI* in regular schools
- assess teachers' practices of inclusive instruction strategies in teaching *SVI* in regular schools
- explore the effect of knowledge, self-efficacy and attitude on teachers' practice of inclusive instruction strategies in teaching *SVI*
- explore opinions of students with visual impairment on existing resources and supports at regular schools and identify challenges they face in regular schools

1.4 Significance of the Study

The study would be significant to the community of practice in the area by assessing and informing factors affecting teachers' practice of inclusive instruction strategies in teaching *SVI* in regular schools. This paper examined how predictor variables like teachers' knowledge, self-efficacy, attitude and other demographic information affected their practice of inclusive instruction strategies in teaching *SVI*, which would address knowledge gap in the area in the local context. Therefore, the findings of the study will add substantially to our understanding regarding the

relationship between the study variables and also support ongoing efforts of including SVI in regular schools. The study would also be significant in informing priority areas of training for CTEs and in-service training opportunities at schools to further improve inclusion practices for Learners with Special Educational Needs (LSEs).

The study would also inform the MoE how crafted policies/working documents are implemented at grassroots level and helps to take lessons and measures for better future engagement in this regard. For instance, while teaching students with special educational needs, MoE (2012a) suggests adapting or modifying instructional content, strategies, materials and learning assessment. It also covered some special adaptation strategies that must be employed while teaching SVI. So, the study has assessed the practice on the ground, therefore gives insight as to how policies and working documents were being practiced at schools.

Moreover, the study will shade light on the importance of promoting disability specific teaching strategies in regular schools rather than promoting inclusive education as a general issue. Finally, the study would facilitate interventions aimed at addressing special needs of SVI and school teachers can also take lesson from the findings. Other researchers could use the study as reference material to further study in the area.

1.5 Scope of the Study

The study was delimited in assessing teachers' practices of inclusive instruction strategies in teaching SVI at regular primary and secondary schools of Addis Ababa. Visual impairment, for this study, includes low vision as well as those with blindness. No other disabilities were considered as the study intends to assess disability specific intervention for SVI in regular schools. Teachers' knowledge about inclusive instruction strategies used to teach SVI, their self-efficacy to teach SVI and attitude towards inclusion of SVI in regular schools and practices of inclusive

instruction strategies in teaching SVI in regular primary and secondary schools of Addis Ababa were assessed.

Geographically, the study was conducted at regular primary and secondary schools of Addis Ababa that enrolled students with visual impairment from Grade 1 to 12 levels. Private schools were not included in this study as the majority of SVI were enrolled in government schools. Special schools for the blind were also not covered in this study.

1.6 Operational Definition of Terms

Visual impairment: is a generic term encompassing different kinds of visual problems. For this study, visual impairment included both blind and low vision incidences. Low vision includes those students with permanent vision loss that can not be corrected with the help of glasses. The vision loss affects their everyday task including education. The status of vision loss for such children is identified in collaboration with SNE specialists at schools, which they have records of students' vision status.

Inclusive Education: According to UNESCO (2017) inclusive education is defined as 'process of strengthening the capacity of the education system to reach out to all learners' (p.7). Pijl, Meijer & Hegarty (1997) indicated inclusive education as a concept which students with disabilities are allowed to be placed in regular classes and taught by regular teachers. So, inclusive education refers to the education system that involves enrolment of students with and without disabilities in regular schools.

Knowledge: is awareness and understanding of school teachers on inclusive instruction strategies used to teach SVI in inclusive education setting. Dichotomous questions with True/False options were used to assess knowledge of school teachers regarding accommodation and modification

strategies through listing attributes that are used to characterize inclusive instruction strategies used to teach SVI. The number of correctly responded questions served to decide the knowledge of teachers.

Self-efficacy: this one refers to the perceived capabilities of teachers to teach SVI in regular schools (e.g. ‘I am capable of preparing resources that can serve the interest of students with visual impairment’). The items were measured using five point Likert scale (1= strongly agree, 2= agree, 3= uncertain, 4= disagree, and 5= strongly disagree).

Attitude: Ajzen indicated that an attitude is ‘a disposition to respond favourably or unfavourably to an object, person, institution, or event’ (Ajzen, 2005, p.3). So, attitude is the personal view of school teachers regarding the inclusion of SVI in regular schools. Likert scale type of questions were used to assess teachers’ attitude using the following options: (1) strongly agree, (2) agree, (3) uncertain, (4) disagree, and (5) strongly disagree.

Practice: refers, for this study, the application of various inclusive instruction strategies in teaching SVI in regular schools by teachers. It denotes whether teachers are practicing different accommodation and modification strategies in the effort to support SVI in inclusive education or not. The extent of their practice was assessed using five-point scale measurement; Never, Rarely, Some-times, Very Often and Always.

Regular schools: This refers to public primary (grade 1-8) and secondary (grade 9-12) schools in Addis Ababa. This doesn’t include other schools types like private and international schools.

1.7 Organization of the Report

Six chapters make up the thesis. The context of the study, statement of the problem, and other topics, such as the significance of the study and its conceptual framework, were all covered in

detail in Chapter 1. The second chapter provided a review related literature on topics pertaining to inclusive education in general and the inclusion of students with visual impairment in regular schools in particular. The use of inclusive instruction strategies by teachers for *SVI* was also examined. The research methodology used to carry out the study was outlined in the third chapter. The methods for sampling, the tools for gathering data, and the ethical standards were detailed. The findings of the quantitative and qualitative study components were provided in chapter four. Chapter five discussed the study's findings by contrasting them with findings from earlier research in the field. The study's main conclusions were presented in chapter six, along with some potential recommendations and implications of the study.

CHAPTER TWO

REVIEW OF LITERATURE

This section presents review of literature related to inclusive education in general and that of issues related to the inclusion of *SVI* in regular schools in global and local context. This section details on international and national documents promoting inclusive education, challenges of inclusive education in Ethiopia, inclusion of students with visual impairment in inclusive schools, inclusive instruction strategies in general and for students with visual impairment, and factors affecting teachers' practices of inclusive instruction strategies at schools.

2.1 International & National Documents Promoting Inclusive Education

Various international and national documents explain the need for quality education for all. The 1948 'Universal Declaration of Human Rights' has stated the need for free and compulsory education for all children at elementary school level. The other document that promotes the idea that all children need to receive education without any discrimination was the 1989 'UN Convention on the rights of the child'. The 1990 World Declaration on 'Education for All' is also another important document that promotes right of every child to get quality education. The 1993 the 'UN standard Rules on the Equalisation of Opportunities for Persons with Disabilities' indicated the need to include children with disabilities in an integrated general school setting. The 1994 'The Salamanca Statement on Principles, Policy and Practice in Special Needs Education' and accompanying frameworks for action in one of the most influential documents in the inclusion of children with disabilities in regular schools (UNESCO, 2005). Salamanca Statement argues that regular school with an inclusive orientation are effective in combating discriminatory attitude and

promote inclusive society in the effort to achieve education for all. Other international documents that promoted inclusion of children with disabilities and other learning needs include the 2000 ‘World Education Forum Framework for Action’, the 2001 ‘Education for All Flagship on the Right to Education for Persons with Disabilities: Towards Inclusion’ and the 2005 UN Disability convention. The 2006 CRPD and the 2030 Sustainable Development Goal on education also anticipates ensuring inclusive and equitable quality education for all.

Ethiopia, as a member of the United Nations (UN), has ratified the 1993 United Nations Standard Rules, the 1994 Salamanca Convention and the UN CRPD, and other important international agreements. In addition to the endorsement of international frameworks related to the rights of people with impairments, Ethiopia has formulated various policy documents, proclamations, strategies, working documents, plans, and other documents to improve education and the lives of peoples with disabilities. The following section details review of documents that address issues related to special needs education/inclusive education in Ethiopia.

a) Federal Democratic Republic of Ethiopia Education and Training Policy

The policy was formulated in 1994 by the Government of Ethiopia to address deep-rooted challenges that prevailed in the education system. Some of the challenges acknowledged by the policy were relevance, quality, accessibility, equity, overcrowded classes, etc. The general and specific objective/s of the policy were stated by indicating the priority areas in education, strategies were also included in the policy document. The right of students with special needs has been addressed in the policy document at the objective level as well as on the proposed strategies. Concerning the rights of students with disabilities, one of the specific objectives of the policy states: *‘To enable both the handicapped and the gifted learn in accordance with their potential and needs’* (Article 2.2.3, p.4).

Even though the policy has used outdated terminologies with respect to description of people with disabilities, it is highly appreciable that right of students with impairments is indicated at objective level as it possibly determines action towards interventions related to the issue.

At strategy level, the policy has detailed possible intervention areas to address needs of students with impairments. The following articles of the policy indicate some of the proposed strategies:

3.1.3 Ensure that the curriculum developed and textbooks prepared at central and regional levels, are based on sound pedagogical and psychological principles and are up to international standard, giving due attention to concrete local conditions and gender issues.

In the formulation of curriculums, the policy indicated the need for the use of sound pedagogical and psychological principles that gives attention to local conditions and gender. This article on curriculum doesn't explicitly mention the need of adapting/ adopting sound pedagogical and psychological principles for students with special needs, it has only mentioned gender and local conditions.

3.7.6 Special attention will be given in the preparation and utilization of support input for special education (p.6).

3.7.7 Special attention will be given to women and to those students who did not get educational opportunities in the preparation, distribution and use of educational support inputs (p.6).

Generally, the move by the government of Ethiopia to include issues of students with disabilities in the policy document indicates its commitment towards achieving equity in education. Some outdated terminologies with regard to special needs education were used in the policy document which needs revision in the future. Terms like 'inclusive education' which goes in line with Social Model framework could be used in the future rather than limiting the issue to some form of disability or impairment.

b) The Ethiopian Constitution

The right of persons with disabilities is enclosed in the Ethiopian Constitution which was adopted in 1995. The constitution indicated the responsibility of the government to allocate resources for the rehabilitation and assistance of individuals with disabilities. Article 41(5) of the Constitution which details on the Economic, Social and Cultural Rights of peoples states as follows: *'The State shall, within available means, allocate resources to provide rehabilitation and assistance to the physically and mentally disabled, the aged, and to children who are left without parents or guardian.'* In addition, Article 9(4) promotes issues related to disability which states *'All international agreements ratified by Ethiopia are an integral part of the law of the land'* which includes the 1993 United Nations Standard Rules, the 1994 Salamanca Convention and the UN CRPD. Though the terminologies used in the article are outdated and are indicative of the charity model, the article suggests the commitment of the government in allocating resources for rehabilitation and assistance of peoples with disabilities. Moreover, the phrase *'within available means'* in Article 41(5) could hinder actions directed to allocating resources.

c) Education Sector Development Plans (ESDPs)

The Education and Training Policy has been translated into action by crafting a comprehensive Education Sector Strategy and a 20-year Education Sector Development Plan (ESDP), which has been rolled out phase by phase since 1997. In the first two ESDPs, little attention was given to the education of children with disabilities. ESDP III (2005/6-2009/10) has given some attention to the education of children with disabilities in the effort to expand educational opportunities for all and in turn achieve Education for all goals. In connection to this, the Ministry, in 2006, has developed a Special Needs Education Strategy which details on various issues like overview of status of SNE, objectives and priority issues/strategies, and elements of inclusive education system. ESDP III, unlike the subsequent plans has not detailed expected outcomes at the end of the implementation

period. Contrary to ESDP III, ESDP IV (2010/11-2014/15) has clearly indicated expected outcomes at the end of the intervention period. ESDP IV has addressed issues of special needs education as crosscutting issue with other areas like civics and ethical education, HIV/AIDS, gender, environment, health and nutrition, drug and substance abuse. Presenting the crosscutting issues using separate section will have its own advantage and disadvantage. The expected advantage is, the crosscutting issues will get due attention for implementation, which in reality was not the case as indicated in ESDP V (MoE, 2016). The following are the major components of the ESDP IV with regard to Special Needs education:

- Enrolment of children with Special Educational Needs (SEN) increased at all level of education. This particular projection has detail output indicators at various levels of the education system.
- It anticipates increasing the proportion of trained teachers in SNE/inclusive education in 2014/15 by 25% when compared to 2009/10
- Fulfilling minimum facilities for SNE/IE by 25% in 2014/15 from what was recorded in 2009/10. This is part of improving the institutional capacity of schools in addressing varied needs of children with SEN.

Unlike ESDP IV, ESDP V (2015/16—2019/20) excludes presenting special needs education and other cross-cutting issues as priority programmes in their own right. But rather, it has fully integrated special needs education and other cross-cutting issues in to the main priority programmes so that they become responsibilities of all implementing bodies. Through mainstreaming special needs education for full-integration with other components of education plan, it forces every sector/department/section/bureau to plan accordingly.

To conclude, the phase based ESDPs have shown a gradual improvement with regard to managing SNE as one of the core businesses of the education system. ESDP I and II have given little or no attention to the issue of SNE, which this reality has been improved in the subsequent ESDPs.

d) Growth and Transformation Plan (GTP) I (2010/11-2014/15) and II (2015/16-2019/20)

The government of Ethiopia has put forward the GTP with a purpose of attaining the realization of the nation vision by 2025, becoming a low middle-income country. Education has been indicated as one of the main social sector issue that the government has given priority to attain the nation vision. This has been manifested through the main primary objectives of GTP I, which one of the objective has been expanding access and ensuring the quality of education to achieve Millennium Development Goals in the social sector. From the education sector, special needs education has been indicated as one focus and gross enrolment rate of special need at primary education has increased from 2.1 percent in 2009/10 to 4.4 percent by 2014/15, which is the end year of GTP I. GTP II has planned to increase this enrolment to 15 percent.

e) Special Needs/Inclusive Education Strategy (The 2006 and 2012)

With primary purpose of building an inclusive education system which can provide quality, relevant and equitable education to all children, youth and adults with SEN, the ministry of education has launched the first special needs education programme strategy in 2006 which was implemented for five years. This strategy shows the direction for providing access to inclusive education to all learners by removing existing barriers at all levels of schooling and higher education. The implementation of the 2006 strategy has recorded new achievements with regard to SNE. It has helped in creating awareness on issues of SNE on education stakeholders at various levels. As the first of its kind as SNE strategy in the country, the implementation has also encountered some challenges which were taken as a lesson in preparing the 2012 strategy. Some

of the 2006 strategy weaknesses pinpointed in the 2012 strategy document included lack of adequate and clear strategic directions, failed to address the needs of gifted and talented children, etc.

Based on the evaluation on the achievements of the 2006 strategy, the ministry has launched the 2012 SNEP strategy, which was considered as vital in mainstreaming SNE at all levels of the education system of Ethiopia. The revision of the 2006 strategy and planning of the 2012 strategy has necessitated due to the need for revision and also since our country has ratified the International Convention on the Rights of Persons with Disabilities in 2010. The 2012 SNE strategy has pinpointed the following as main strategic issues for implementations: strengthening educational management and administration; improving access to all children with special educational needs; capacitating teachers, school management, support staff, and teacher educators; promoting inclusive curriculum through adopting curriculums, individual education programme, and improving learning assessment; establishing functional support system; strengthening partnership among stakeholders; research, and monitoring and evaluation. This strategy document was considered as vital in ensuring inclusive education to the education system.

f) Special needs/ inclusive education strategy implementation guideline

This document was implementation guideline for the strategy document discussed above. It clearly states duties and responsibilities of the different hierarchies in the education system, from federal MoE to school level, in promoting inclusive education in the country. It also details roles of various stakeholders including line ministries, UN agencies, donors, non-governmental organizations and disabled people's organization. Some of the duties of the federal MoE indicated include, ensuring that all education sector plans are sensitive to the issue of inclusive education, monitor the plan

and budget of regional education bureaus with regard to LSEs, ensuring availability of assistive devices and technologies to LSEs. Regional/city administration education bureaus were entitled to plan, allocate budget and organize management systems to implement the strategy. It also ensures that SNE teachers are assigned as itinerant teachers at lower hierarchies of the education structure including at school level. Capacitating SNE teachers as well as subject teachers on basics of SNE/IE is indicated as another role of regional education bureaus. The zonal/sub city education department shall ensure that LSEs receive the required support in terms of assistive device, technologies, equipment and educational materials. Woreda education offices share similar roles like the previous ones. But as they are close to schools, they have specific roles and responsibilities to discharge including assigning trained SNE specialists as itinerant teachers, planning in-service training to teachers on issues related to braille and sign language, monitoring that IE is part of teachers' Continuous Professional Development, allocating budget to equip resource centres with assistive devices (like wheelchair, cane), technologies (like computer, Job Access with Speech (JAWS) software), etc. At school level, the school management, regular classroom teachers, resource centers, itinerant teachers, and parents have roles in implementing inclusive education for LSEs.

g) Guideline for Curriculum Differentiation and Individual Educational Programme, 2012

This particular document prepared by MoE details various strategies that school and teachers need to apply in supporting education of children with special needs. The document anticipates introducing basics of curriculum differentiation and IEP to the Ethiopian education sector. The document stressed that teachers play a critical role in implementation of inclusive education at schools through creating favourable classroom climate, developing self-esteem of learners with

disabilities, planning and implementing lessons, extending supports for such children, etc. It also details various approaches of adapting and modifying instruction strategies, instructional materials, and learning assessment practices. Some of the strategies suggested to support students with visual impairment were availing Braille resources, tactile materials, training orientation and mobility skills, providing audiotaped materials and use of assistive technology devices.

h) Reference Material for Special Needs/Inclusive Education Courses

This document published in 2012 was prepared to support implementation of inclusive education through serving as reference material in the area. It details the meaning of inclusive education, and various teaching strategies that could be applied in inclusive classrooms. The document presented various teaching strategies specific to children with various disabilities like visual impairment, hearing impairment, intellectual disability, autism, emotional and behavioural problem, learning disability, language and communication disorders, physical and health impairment, and gifted and talented children. Strategies suggested for educators to teach children with visual impairment include adaptation of the physical environment, instructional materials and instruction. Specific strategies suggested to teach children with low vision include providing appropriate tools like magnifying glass, dark lead pencils, boldly lined paper, reading lamp, hats for glare, large-print books, screen reader, taper recorders and talking dictionaries. Other strategies suggested to teach children with visual impairments (low vision and blind) includes accommodating lighting issues in the classroom, giving more time to complete tasks, shortening assignments, availing braille resources, using oral reading, etc.

i) A master plan for Special Needs/Inclusive Education in Ethiopia (2016-2025)

The government of Ethiopia has launched a 10 year master plan (2016-2025) for SNE/IE with primary purpose of giving more visibility to inclusive and special needs education and to strengthening the structures and environment enabling inclusion. The SN/IE master plan aims to provide an education system that is accessible to all learners, irrespective of their socioeconomic status, gender, ethnic origins, language, and disabilities. This master plan is aligned with some vital documents which included the Constitution of Ethiopia, the 1994 Education and Training Policy, the 2006 and 2012 Special Needs Education Program Strategy. The master plan is considered as separate plan of SNE plans embedded in ESDP V as cross-cutting issues, this will help to shed light on the plans by presenting them in a more comprehensive and visible way. Other important issues that will be addressed through the master plan will be defining qualification requirements, career structures and job profiles for SNE teachers and other experts.

j) Ethiopian Education Development Roadmap (2018-30)

The roadmap was prepared to reform the education sector so that it aligns with the national vision of becoming middle-income country in 2030 through developing appropriate human capital development. The document discussed six major thematic areas: (1) pre-primary and primary education, (2) secondary and preparatory education (3) teacher education and development, (4) higher education, (5) TVET, and (6) policy, governance and leadership. Under each thematic area, achievements, gaps and challenges, and way forward were discussed. The document underlines the need to have same opportunity for children with special needs to succeed in life like their peers. As way forward, it suggests creating enabling school environment for all with regard to social, academic and physical environment to achieve equitable learning outcome.

k) Ethiopian 10 Year Education Development Plan (2021-2030)

This particular document was prepared to take action on some of the suggestions indicated in the Ethiopian Education Development Roadmap (2018-30). The document acknowledges existence of multiple challenges affecting implementation of inclusive education in Ethiopia like shortage of trained teachers, poor school environment, poor identification of children with disabilities, lack of awareness to implement the programme, poor provision of resources, etc. Enrolment rate of children with special needs in Ethiopia is expected to become 18.94%, 49.97% and 19.99% at pre-primary, primary and secondary school levels, respectively, at the end of the implementation of the plan from the baseline rate of 1.3%, 11% and 2.8%, respectively, in 2019. Various strategies were suggested to achieve the envisaged plan.

2.2 Challenges of Inclusive Education in Ethiopia

In Ethiopia, children with disabilities have extremely limited access to school with nearly 93% are out of school. One major reason for this is the low level of awareness of the public at large regarding disability and related issues. It is not uncommon that the public in general and parents of children with disabilities in particular share negative attitudes towards such children which often led to keep them at home rather than sending to schools (MoE, 2012). Franck (2015) indicated that children's disability in Ethiopia is usually associated with a parents' or family's curse. In a study conducted in Bahir Dar to assess the beliefs of parents about the causes of their children's blindness, it was reported that evil eye, parents' sin, curse, misdeed in their previous life and misfortune were among the perceived reasons (Zelalem, 2002). It is common that the public in general and parents of children with disabilities in particular share negative attitudes towards such children which often led to keep them at home rather than sending to schools (MoE, 2012). Franck (2015) indicated that disability in Ethiopia is usually associated with a person's

immortality or curse. Due to such beliefs and other related factors, limited number of children with disabilities has access to school. According to recent data of MoE, it was only 2.7% of school-aged children with disabilities had access to pre-primary education (p. 67), 10.4 % at primary & middle level education (p.69) and 3.6 % at secondary education, suggesting that the vast majority of children with disabilities at pre-primary, primary and secondary schools, or about 93%, are not enrolled or are out of school (MoE, 2022).

Even those enrolled at local schools under the auspice of inclusive education face multiple challenges including negative societal attitudes (Abera, 2021; Graham, 2015; Nasir, 2020; Tirusew, 1999), shortage of materials (Abera, 2021; Demisew, 2014; Ifa, 2020; Lewis, 2009; MoE & UNICEF, 2012; Rachel, 2016), inconvenient school environments that are not disability-friendly (Abera, 2021; MoE & UNICEF, 2012), and weak pedagogical skill of teachers to deal with learner diversity (Bilka, 2020; Demisew, 2014; Franck, 2015; Franck & Joshi, 2017; Lemma, 2000; MoE & UNICEF, 2012; Zebiba, 2020). So, inclusion of children with disabilities, especially in low-income countries is not considered to be satisfactory as inclusive education is mostly associated with placing students with disabilities in mainstream class with other students without disabilities without providing the necessary support (Lamichhane, 2017).

Graham (2015) highlighted that Ethiopian policy documents addressed disability using charity-based perspective which suggested the need to shift it to right-based approach. UNESCO (2020) has highlighted multiple challenges affecting implementation of inclusive education policy in Ethiopia. Existence of weak inclusive education structure at federal MoE, region, city administration, zone and woreda level was indicated as one challenge, which structures were organized under various offices with limited man power. Other challenges identified were limitations in data collection and management system, inaccessible facility and unsafe school

environment, insufficient educational materials and assistive devices, rigid curriculum, and lack of general education teachers' adequate preparation in the pre-service and/or in-service programs.

2.3 Inclusion of Students with Visual Impairment in Regular Schools

Although children with visual impairment share the aforementioned challenges like other students with disabilities in the inclusive education setting, some challenges were reported to be unique due to the kind of disability they have, loss of vision. In Ethiopian context, studies suggest that SVI face multiple challenges in inclusive education settings. One of which was teachers' skill gap to manage such students in classrooms. Abeya (2014) found out that teachers lack skills to adapt instructions for pupil with visual impairment. This assertion was strengthened by Meskerem (2017) which stated that teachers lack on job training opportunities to equip with basics of inclusion principles and application.

The convenience of physical environment of schools for SVI was also challenged by multiple studies. Anto (2004) stressed that school compounds, classroom furniture and arrangement as not convenient for ease of movement. Abiyot (2014) stated that classrooms were below standard characterized by poor lighting and lack of space for movement. Lack of appropriate resources that fits to the special needs of SVI was also identified through various studies. According to Anto (2004), there exist a serious shortage of special materials and equipment in schools. Study conducted by Wondwossen et al. (2014) reported lack of Braille books at sampled schools in Gondar. Other studies also acknowledged the poor supply of teaching and learning materials for children with visual impairment in inclusive classrooms (RTI, 2017; Franck, 2015; Wondimagegn, 2014). Shortage of support services for children with visual impairment at schools was also reported as a prevalent challenge. Lack of resource rooms, guidance and counseling services and mobility and orientation services (Anto, 2004; Biniam, 2016) were some to mention. Lack of

adequate knowledge of braille (Bidika, 2014; Franck, 2015) as well as poor skills on accommodation and modification strategies to curricular contents and teaching approaches (Anto, 2004; Bilka, 2020; Zebiba, 2020) were reported in studies detailing challenges related to the education of children with visual impairment in local schools of Ethiopia. Multiple studies also revealed unavailability of specialized resources and support mechanisms to strengthen education of children with visual impairment (Biniam, 2016, Anto, 2004; Franck, 2015; Fufi, 2020; Mitiku et al., 2014).

2.4 Inclusive Instruction Strategies

Symes and Humphrey (2012) suggest that schools need to adapt their environment considering the needs of children with special educational needs/disabilities. Due to the poor quality of support provided to students with disabilities in inclusive education, there are on-going professional debates and myths regarding their inclusion in regular schools (Hayes and Bulat, 2017). According to Lamichhane (2017), inclusive education is sometimes connected with merely putting students with disabilities and those without in the same mainstream class. So, this leaves some vulnerable groups, like those with disabilities, marginalised in inclusive education as they are not receiving the required support to succeed (Ainscow, 2012). Pupils with visual impairment are among those groups with disabilities which face such challenges in inclusive education setting (Gray, 2009; Horton, 1988; Pagliano, 1998; Davis and Hopwood, 2002).

Article 24 of the 2006 UN Convention on the Rights of Persons with Disabilities states that ‘Children with disabilities have the right to inclusive, quality and free education in their local schools’. Schools are expected to make some ‘reasonable accommodation’ to meet varied needs of pupils with disabilities. The same article suggests the need for ‘individualised support’ for pupils with disabilities which is about extending one-to-one assistance when necessary. To facilitate

effective education for persons with disabilities, support system needs to be integral part of the general education system. Various scholars highlighted the importance of accommodation and modification in providing such necessary supports for pupils with disabilities in promoting meaningful inclusive education (Rieser, 2012). Rieser underscored that education of children with disabilities is likely to fail without accommodations and other compensatory measures. Virginia Department of Education (2017) highlighted the importance of accommodation and modifications as most curriculum development considers sighted students.

No single definition was attached to accommodation and modification in inclusive education which various scholars assigned different meanings. According to Rieser (2012), accommodation ‘means removing barriers and taking steps to engage students in a way that helps them reach their potential both academically and socially’. Students, based on their varied disabilities, have different needs which suggests for arranging reasonable accommodation that fits individual needs (Rieser, 2012). British Columbia Ministry of Education (2006) suggested accommodation depends on strength and specific difficulties of individuals.

The Virginia Department of Education (2017) considered accommodation as a tool to attain success in general curriculum by children with disabilities without lowering expectations while modification is indicated as changes in what such children are taught. Putting it precisely, accommodations is about how a student learns without changing what is expected to learn while in modification content and expected performances are changed. Accommodations, according to Virginia Department of Education, might include extended time, specialized instruction, specialized materials and environmental adaptations. Similar characterization was reported by British Columbia Ministry of Education (2006), which included differentiating instruction, assessment and materials to create personalized learning for children with disabilities. Similarly,

Loreman et al. (2005) suggested making five areas of changes which modification of educational environment can take place in the effort to maintain appropriate education for children with disabilities in inclusive education. These are: the physical environment, the materials environment, the resources environment, instructional strategies and learning outcomes. Material modifications include Braille instruction, enlarging prints and reducing the amount of material selected. Modification of the resource environment includes provision of additional instructional support by paraprofessionals, and peer tutors, utilization of additional technological resources and collaborating with other teachers. Giving additional time to complete task, use of cooperative and partnered learning strategies, use of a variety of models for learning activities, and providing additional demonstration are some of the suggested modifications in instructional strategies. Modifications in learning outcomes could involve selecting similar tasks but with easier level within the same curriculum.

Willings (2016) explained the purpose of accommodation in providing course content without reducing grade level standards and complexity of information taught to students. Decreasing or eliminating interference emanating from the disability was also highlighted as another purpose of accommodation. Some of the factors were suggested for consideration while choosing accommodations which include current individualized needs, its importance in reducing the effect of the specific disability to access the curriculum, involvement of other professionals and parents. Some of the approaches for accommodation were suggested to be changes in the medium (like braille, large print), changes in the way materials are presented, changes in time requirement, changes in the way students demonstrate learning, and changes in settings (environment, seating).

Willings (2016) suggested that modifications could be used if accommodation approaches are not feasible for the student and the modification approach lower the learning expectations. Some of

the proposed modifications which could be included in the student's IEP were reducing assignments so a student tackles easiest problems, lowering the difficulty of assignments, the student may learn fewer materials, etc.

There are some inherent challenges in the education system to meet the needs of children in inclusive classrooms. One reason mentioned by Gajewski (2014) indicates lack of knowledge and skill by school teachers to make accommodations and modifications in the effort to address multiple needs of their students. Council for Exceptional Children (CEC) (2017) recommends that teachers need to acquire knowledge of non-visual instructional strategies.

Pijl & Maijer (1997) suggested that teaching pupils with special educational needs in inclusive classrooms differs from 'regular programme' which depends on teachers' attitude, knowledge and skill of teachers, their teaching methods, and use of additional material. This concurs with Copfer & Specht (2014) who suggests that positive attitude towards inclusive education as one factor to determine development of effective inclusive pedagogies. Alexander (2004) as cited in Florian & Spratt (2013), indicated inclusive pedagogy to mean 'the knowledge and the skills required by teachers to inform the decisions they make about their practice' that required not only presence of children with SEN in school, but also opportunity for meaningful learning through participation. OECD (1999) characterized inclusive schools as those learning organizations where teachers adapt their pedagogies to address various learning demands of students in classrooms which was indicated as one of the biggest challenge in inclusive education (Voltz et al., 2001). Pedagogical skill gap of teachers to deal with children with disability/special educational needs was indicated as one factor contributing to the existing poor classroom practices (Rix et al., 2009). Particularly children with visual impairment pose a different challenge for teachers in classrooms as they learn differently; they cannot rely on their vision to access information. Literatures indicate that the

amounts of learning opportunities are fewer for children with visual impairment (Cox & Dykes, 2001). The British Columbia Ministry of Education (2006) supports this perspective, asserting that vision impairment in children has a significant impact on various areas such as concept development, communication skills, living skills, orientation and mobility skills and academic development. Nind and Wearmouth (2006) highlighted the importance of pedagogical approaches used by teachers in advocating inclusive education. Scholars have suggested application of various teaching approaches that helps to effectively include children with disabilities/SEN in general and SVI in particular in mainstream classrooms.

According to British Council (undated), inclusive classrooms facilitate conditions to learn from each other which collaboration and working together is identified as one quality of good inclusive practice. Inclusive classrooms celebrate diversity among students which helps to recognize strengths and differences. Understanding the perspective of those who might be marginalized is also another component of inclusive practices. An inclusive classroom could also happen through the application of differentiation, which according to British Council; it is about thinking to vary teaching content and methodology to include more students with SEN. Through differentiation, the teacher can adapt part of a task, instructions, types of questions, class groupings, lesson, or material to include every learner in the lesson taught.

A Meta-Analysis was conducted by Nind and Wearmouth (2006) on 68 research reports with main purpose of identifying effective pedagogical approaches that enables inclusion of children with SEN in mainstream classrooms. Accordingly, pedagogical approaches which help to facilitate inclusive education in classrooms included adaptation of instructions, adaptations of materials, adaptations of assessment, adaptations of classroom environment, behavioural intervention, computer based pedagogy, peer tutoring and team teaching.

In their systematic review of literatures on pedagogical approaches that could effectively include children with SEN in mainstream classrooms, Rix et al. (2009) identified certain approaches that teachers could apply. The first point indicated was teachers has to be aware of the issue that they are responsible for all pupils they teach which in turn demands teachers to equip themselves with regard to knowledge and skill so that they are able to entertain diversity in classrooms. Scaffolding, carefully planning group work, utilizing pupils as resources for learning, encouraging questioning, using activities which are meaningful for learners, etc. were also indicated as possible approaches for teachers.

As briefly discussed above, there exist a range of inclusive instruction strategies that can promote inclusive education practices for students with SEN, but literatures also indicate existence of some specific teaching strategies that are useful in teaching *SVI* in inclusive environment. The following section presents inclusive instruction strategies that help to teach students with visual impairment in inclusive classrooms. Some of the strategies presented could also be applied for promoting inclusive education for pupils with other disabilities or SEN.

2.5 Inclusive Instruction Strategies used to teach students with visual impairment

Various literatures suggest the need for developing positive attitude of teachers towards students with visual impairment in inclusive classrooms (British Columbia Ministry of Education, 2006; Horton, 1988; Sightsavers, 2018). Welcoming *SVI* in regular classrooms demand giving the same attention, praise and encouragement like other children in classrooms. Underestimation of abilities of *SVI* is one problem that interferes with welcoming students with visual impairment to inclusive classrooms (Sightsavers, 2018). To include *SVI* in regular classroom, the responsibility lies on various bodies like teachers, school administrators, other students, parents, etc. The accommodation and modification practices could involve various adaptations at different points in

the teaching learning process inside and outside of the classrooms. The following inclusive instruction strategies used to teach *SVI* were suggested by different scholars:

Positive attitude of teachers towards students with VI

Scholars like Horton (1988) argue having positive attitude towards *SVI* as the top priority in inclusive pedagogies issue. According to Horton, children with visual impairment must get the same level of attention like other sighted children in classrooms. The author challenges the idea of making special rules for children with visual impairment in classrooms and also the teacher has to expect same level of work from children with visual impairment. Sightsavers (2018) also indicated the need for teachers to believe in the ability of children with visual impairment (VI) and not to underestimate their capacity to learn and do like other sighted children. Children with VI have to be challenged to take risks and grow (British Columbia Ministry of Education, 2006). The positive attitude of teachers towards children with VI was also explained by extending praise and encouragement for their active participation, achievement and engagement (British Columbia Ministry of Education, 2006; Sightsavers, 2018). Voltz et al. (2001) stressed the need for active participation of students with VI in classrooms by including them in classroom discussions. Acceptance of children with VI by their teachers and peers will positively affect their psychological safety.

Teaching strategies in classroom Instructions

Corbett (2003) promoted the concept of having schools that are ‘learning inclusive’ through which inclusive learning takes place rather than advocating for ‘organizationally inclusive’ schools. This calls for application of various teaching strategies that could be applied by teachers in classroom instructions for ‘learning inclusive’ classrooms. A considerable amount of literature has been

published on teaching strategies that could be used by teachers in classrooms where there are children with visual impairment. It has been suggested that, through the use of interesting, challenging and age appropriate activities, keeping students with VI actively engaged in classrooms is one responsibility of school teachers (British Columbia Ministry of Education, 2006; Voltz et al., 2001). It has been suggested that use of concrete and tactile materials could help to facilitate active engagement of SVI in classrooms by providing opportunities for hands-on learning (British Columbia Ministry of Education, 2006; Cox & Dykes, 2001; Saskatchewan Learning, 2003).

Several studies have revealed that teachers have to talk while they teach in classrooms having SVI so that such children are able to follow lectures. Without oral description, understanding diagrams and new vocabulary could be problematic. Some quite simple but effective rules were also suggested as principles of inclusion in classrooms where SVI exist. Facing the class while speaking, speaking clearly in normal voice, reading notes while writing them on board, keeping pace of lectures, indicating verbally when a teacher enters and leaves classrooms, eliminating background noises, etc. were some tips suggested (British Columbia Ministry of Education , 2006; Cox & Dykes, 2001; Saskatchewan Learning, 2003, UNESCO, 2001). Ensuring the existence of ‘non-noisy’ classroom environment will benefit all children, not only those with VI.

Provision of extra time to SVI in activities within and out of school activities was suggested as one mechanism to assist their educational achievement. SVI may take longer to complete assignments and activities given, and scholars support provision of additional time to accomplish tasks and assignments (British Columbia Ministry of Education, 2006; Saskatchewan Learning, 2003). Others suggest for adapting reading and writing tasks for children with visual impairment as per their needs through providing tactile materials or enlarged print of materials (Sightsavers, 2018).

Concerning the appropriate use of blackboard/chalkboard, Sightsavers (2018) and UNESCO (2001) recommended for its effective utilization taking those children with low vision in to consideration. Use of large writing on the board and clearly writing on the board are points to be considered for its effective utilization. Sitting arrangement of children with low vision needs consideration so that they are positioned for optimal viewing of the board.

Curriculum differentiation and preparation of IEP were suggested as other mechanisms of including children with VI in mainstream classrooms. OECD (1999) and Corbett (2003) promoted the curriculum differentiation for SVI through the use of variety teaching skills, valuing differences and IEP. The IEP could be considered in various ways including Brailing textbooks/references, enlarging textbooks, assisting to use any residual vision (British Columbia Ministry of Education, 2006). UNESCO (2001) indicated the application of IEP as a good practice in many countries which requires teachers to consider individual children's needs while planning their daily lesson. Sightsavers (2018) acknowledged the difficulty of providing one-to-one assistance to pupils with large class size and also highlighted its importance in some occasions like in fostering new skills.

Establishing Buddy System

One strategy use to promote education of children with visual impairment in inclusive setting is establishing buddy system. Rieser (2012) stressed the importance of child-to-child principles like buddy system on education of children. According to British Columbia Ministry of Education (2006), the buddy system will have mutual benefit for both children, sighted as well as with visual impairment. The sighted students can assist those children with VI in copying notes, reading notes, etc. while those with VI can assist the sighted children in area of their strengths. Sightsavers (2018) also suggested for establishing buddy system in which sighted children can assist the others to

show around the school, to help with their work, and to be with the child during breaks and lunch-times. It also promotes team work among children through peer tutoring (Dyssegaard & Larsen, 2013; Sightsavers, 2018).

Trained Teachers and Specialist Teachers

Teachers were indicated as the most valuable resources in promoting inclusive education at schools. Their attitude towards inclusion of children with disabilities has an impact on its success. Negative attitude of teachers to inclusion is mostly related to lack of basic knowledge and skill to manage varied needs of students with special educational needs (Rieser, 2012; USAID, 2010). Awareness on the needs of students with a visual impairment and knowledge on non-visual instructional strategies is considered vital in inclusion setting (Saskatchewan Learning, 2003; Sightsavers, 2018). Training of teachers and in-service training were areas that need attention for having trained teachers who can handle varied needs of learners in classrooms. In this regard, child-centered instructional methodologies could be one area to work on which helps to identify unique learning needs of children with visual impairment (OECD, 1999; USAID, 2010).

Availability of specialist teachers also helps promoting inclusive education at schools. CEC (2017) indicated that they can train on areas like Braille, computer, tactual skills, study skills, and independent living skills. Howgego, Miles & Myers (2014) have referred to these specialist teachers as ‘itinerant teachers’ and can provide specialist support to teachers and students with VI. Moreover, prior studies also identified supporting such students with regard to braille reading/writing, orientation and mobility skills, independent daily living skills, abacus, and other comparable concerns (Horton, 1988; Opie, 2018; Cox & Dykes, 2001). These and other similar adaptation strategies needs to be implemented in regular schools to better support the education of

children with visual impairments. Similar expectations were placed on Ethiopian schools as well as teachers to improve education of students with visual impairment in inclusive education. MoE (2012a) suggests making adaptations or modifications on instructional content, instructional strategies, instructional materials and learning assessment practices in teaching and supporting students with special educational needs. The document also described some specific modification strategies that needs to be applied while teaching students with visual impairment.

2.6 Physical Environment, Learning resources and Support Mechanisms

Accessible Physical Environment

One factor that is highly related to the education of SVI is the physical environment of schools in general and classrooms in particular. It has been conclusively shown that school compound, classrooms, toilet facilities, libraries, resource rooms, etc. needs to be accessible for children with VI which is highly related to their safety and security issue at schools (British Columbia Ministry of Education, 2006; OECD, 1999; USAID, 2010). Reducing visual fatigue for children with low vision through appropriate lighting in classrooms was also suggested as one factor for consideration in the effort to create accessible physical environment (British Columbia Ministry of Education, 2006; Saskatchewan Learning, 2003).

Oseroff, Koorland & Maratea (1987) has suggested for comfortable arrangement of classrooms to facilitate movement of students with VI. Sitting arrangement of SVI in classrooms has also got attention of various scholars. Putting SVI near the front seat was recommended for their best advantage of optimal viewing of the board as well as clearly listening lectures by teachers (Saskatchewan Learning, 2003; UNESCO, 2001; Voltz et al., 2001).

Resources

The gap in provision of appropriate learning resources and availing assistive technologies for children with VI is considered as one failure of the education system in many countries. The CEC (2017) indicated that students with VI has to receive all education materials like textbooks and handouts provided for other sighted in appropriate format like Braille, enlarged prints or audio formats. Similarly, Howgego, Miles & Myers (2014) suggested for provision of assistive devices like spectacles, magnifying glasses, mobility aids, Braille textbooks, large print materials, and tactile materials. According to Tseeke (2021), a shortage of resources has made teachers feel less competent in assisting those learners that require additional help.

Support

Several studies have revealed some compensatory skills, as additional curriculum, that are required to be mastered by children with VI in order to access the general curriculum. According to Texas Education of Blind and Visually Impaired Students Advisory Committee (TEBVISAC) (2008), these skills include Braille, communication skills, study skills and concept development. The importance of Braille literacy among children with VI has been highlighted by various literatures reviewed (British Columbia Ministry of Education, 2006; CEC, 2017; Horton, 1988; Cox & Dykes, 2001; TEBVISAC, 2008; Virginia Department of Education, 2017).

The Orientation and Mobility (OM) skill is the other skill that has got significant attention in literatures reviewed. TEBVISAC (2008) and Sightsavers (2018) highlighted the importance of orientation and mobility skills for independent movement of children with VI. Cox & Dykes (2001) indicated free movement around schools as an essential part of successful school experience. Equipping students with VI with indoor (classrooms, school compound, offices, clinics, entrance and exits) as well as outdoor OM (street crossing, traffic safety, safety rules of

using playground equipment) was given attention in the aforementioned literature sources. The Virginia Department of Education (2017) highlights the need to develop the OM skills beginning from infancy stage with basic spatial concepts and exploratory movement.

The other support area that children with VI require is on independent living skills which, for sighted children, they mostly are learnt through observation of others at home, school, or elsewhere. According to TEBVISAC (2008), these skills include Personal hygiene, dressing, food preparation, money management, housekeeping, and organization skills. Similarly, Cox & Dykes (2001) indicated these skills as listening skills, computer skills, orientation and mobility, social skills, Braille literacy, and use of vision. Likewise, Opie (2018) indicated the need for developing 'Expanded Core Curriculums' which comprises of nine areas; compensatory or access skills, orientation and mobility skills and concepts, social interaction skills, use of technology and assistive technology, career education, independent living skills, recreational and leisure skills, self-determination skills, and sensory efficiency skills. Furthermore, Horton (1988) has indicated other similar skills as 'Curriculum Plus Skills' which includes sensory training, OM, abacus, braille reading and writing, self-care skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, money identification and management, menstruation, care and identification of clothes, care of nails), home skills (sweeping the floor, dusting, making the bed, sewing), cooking skills (marketing, identifying fresh foods, lighting the stove, cutting fire wood, use of electrical appliances, preparing simple foods, and safe use of knives).

2.7 Teacher Related Factors Affecting Inclusive Education Practices

It is commonly acknowledged that the essential teachers' professional competencies required for the implementation of inclusive educational practices are the attitudes, knowledge, and self-efficacy (Mu et al., 2015; Lu et al., 2020). They are also referred as professional competence pillars

of inclusive education teachers. There have been several studies in the literature reporting factors that affect teachers' knowledge, skill and attitude towards inclusive education, and also their practice. Most of the studies conducted were generally referring to the general inclusive education without specifying disability types. Studies that deal with teacher related factors that affect inclusion of children with visual impairment in regular schools were also accessed, though quite limited.

A large and growing body of literature has investigated factors affecting practices of inclusive education by regular school teachers. Mu et al. (2015) indicated knowledge, skill, existing values, beliefs and attitudes of teachers affect inclusive education practices at schools. In a recent study conducted by Tseeke (2021), teachers' knowledge about inclusion was reported to be a significant predictor of inclusive practices at schools in Lesotho, whereas attitudes and availability of resources were not predicting inclusion practice. This finding was consistent with that of Johnstone & Chapman (2009) in which knowledge was strong predictor of success in inclusive practices. Study conducted by Dapudong (2014) in Thailand indicated that successful inclusion of children with disabilities in inclusive classrooms depends on attitudes of teachers' towards students with SEN and their knowledge on how to properly educate them.

Studies conducted in local context suggest existence of poor level of practice of inclusive education by school teachers. For instance, the study conducted by Moti et al. (2018) indicated that primary school teachers rarely practiced inclusive education. The same study detailed that knowledge of teachers significantly contributed to inclusive education practice while attitude of teachers towards inclusion has no effect on their practices. Similarly, Alemayehu (2019) found that the level of implementation of inclusive education in general schools drawn from Sebeta town

was very poor. Factors contributing to the poor implementation of inclusive education at the schools were lack of inclusive educational materials and unsuitable school physical structure.

Studies that assessed the effect of background information of teachers on their inclusive education practices documented contradictory and inconsistent findings. The experience from a study conducted in Ghana showed that attitudes towards inclusion and knowledge of inclusion predicted effective inclusive teaching practices which those teachers who were having positive attitude and more knowledge of inclusion were practicing inclusive teaching better (Kuyini & Desai, 2007). In Ethiopian context, a study conducted by Moti et al. (2018) in Nekemte town indicated that gender, training, teaching experience, knowledge and attitudes were not able to predict teachers' practices of inclusive education. The inclusive education practices of urban and rural teachers were indicated to have a statistically significant difference, in favour of teachers from urban schools.

A considerable amount of literature has been published on the relationship between teachers' knowledge, self-efficacy and attitude and their effect on the practice of implementing inclusive education in regular schools. The following subsections present discussion on the constructs:

2.7.1 Knowledge

Various studies have highlighted the importance of knowledge in shaping attitude of teachers towards implementing inclusive education (Ackah, 2010; Tseeke, 2021; Mosia, 2014; Mu et al. 2015). For instance, a study conducted by Mu et al. (2015) underscored that knowledge is one of the professional competence of teachers related to effective inclusive teaching approaches. Along the same lines, Ackah (2010) argued that, knowledge about SNE acquired through either pre-service or in-service trainings is a crucial factor that determines teachers' attitudes towards the implementation of an inclusive policy.

Rix et al. (2009) identified certain approaches that teachers could apply in inclusive education settings including awareness that they are responsible for all pupils they teach in classrooms, which in turn demands teachers to equip themselves with knowledge and skill to entertain diversity in classrooms. CEC (2017) recommends that teachers need to acquire knowledge of non-visual instructional strategies. Pijl & Maijer (1997) suggested that teaching pupils with special educational needs depends on teachers' attitude, knowledge and skill, their teaching methods, and use of additional material. The importance of knowledge in inclusive education was highlighted by Rieser (2012) and USAID (2010) which indicated that negative attitude of teachers to inclusion is mostly related to lack of basic knowledge and skill to manage varied needs of students with special educational needs. Awareness on the needs of students with a visual impairment and knowledge on non-visual instructional strategies is considered vital in inclusion setting (Saskatchewan Learning, 2003; Sightsavers, 2018).

According to the investigation by Tseeke (2021) in South Africa, lack of knowledge about inclusive education along with other reasons was considered as one factor behind low levels of teachers' self-efficacy in teaching learners with visual impairment in inclusive settings. Study conducted in Lesotho by Mosia (2014) revealed that teachers and other educationalists like head teachers lack understanding about what constitutes an inclusive education. Local studies conducted by Anto (2004), Zebiba (2020) and Bilka (2020) indicated existence of teachers' knowledge gap on inclusive instruction strategies related to contextualizing curricular contents and teaching approaches, considering *SVI*. Another local study conducted in Nekemte town primary schools by Moti et al. (2018) indicated that teachers have slightly moderate knowledge about inclusive education.

2.7.2 Self-efficacy

The term self-efficacy has become popular after Albert Bandura's article titled 'Self-Efficacy: Toward a Unifying Theory of Behavior Change' in 1977 (Maddux, 1995). Bandura (1977) defined self-efficacy as 'one's beliefs in one's ability to perform a specific behaviour or set of behaviours required to produce an outcome' (p.191). He made the argument that the efficacy belief affects how one controls their exercise over action and how they manage their cognitive and psychological processes. Werner et al. (2021), supported this insight and indicated that self-efficacy beliefs are related to people's confidence and perceived ability to perform a given behaviour. So, self-efficacy determines the amount of effort people put to tackle a given behaviour and also persistence in case of obstacles and aversive experiences (Bandura, 1977). Teachers' belief in their ability to have strategies that promote the inclusion of all learners, collaborate with parents and other professionals, and deal with disruptive behaviour are referred to as the three dimensions of teacher self-efficacy for inclusion, according to Sharma et al. (2012) .

Various scholars have highlighted the importance of self-efficacy in inclusive education (Savolainen et al., 2022, Werner et al., 2021; Yada et al., 2022). Hofman and Kilimo (2014) indicated that teachers with low self-efficacy face more problems in the implementation of inclusive education. In contrary, teachers with high self-efficacy set challenging goals, are confident and motivated in highly demanding educational tasks and can cope with stressors and negative feelings. Similarly, Maddux (1995) asserts that self-efficacy is related to coping with environmental demands and challenges in away actively shaping their environment than passively react to them. Likewise, Yada et al. (2022) holds the view that self-efficacy of teachers is related to their behaviour in inclusive practices which could further impact educational experiences of

students in school. Hofman and Kilimo (2014) also argued that teachers' self-efficacy promotes student's sense of efficacy, which in turn leads to active engagement of students in classrooms. Zee and Koomen (2016), who reviewed 40 years of research on teachers' self-efficacy, observed that self-efficacious teachers are less likely to exclude problematic learners from their classrooms and are more tolerant. This view is supported by Sharma et al. (2012) who found out that teachers with low self-efficacy find it difficult to implement inclusive teaching strategies in their inclusive classrooms because they believe they are unable to meet the needs of all pupils.

A qualitative study conducted by Tseeke (2021) in Lesotho indicated that low levels of self-efficacy of teachers teaching learners with visual impairments was due to lack of knowledge, resources and supports. Werner et al. (2021) concluded that higher perceived knowledge of inclusion was related to high self-efficacy of teachers regarding inclusion. A more recent study conducted by Van Staden and Nel (2023) in South Africa to explore factors affecting teachers self-efficacy in implementing inclusive education revealed existence of internal and external factors. The internal factors include lack of knowledge and skills, and psychological problems. The ineffective implementation of inclusive education, insufficient training, incompetent officials and managers of the education department, and lack of support from the education department were cited as external problems.

There have been several studies in the literature reporting the effect of teachers' demographic characteristics on their self-efficacy belief concerning inclusive education. Numerous studies have attempted to explain how gender affect teachers' self-efficacy beliefs in inclusive education. Studies conducted by Hofman & Kilimo (2014), Tschannen-Moran & Hoy (2007), Antoniou et al. (2017), Kuyini et al. (2018) and Savolainen et al. (2022) indicated that gender has no effect on

teachers' self-efficacy. But, a study conducted by San Martin et al. (2021) reported that Chilean female teachers have higher level of self-efficacy than their male counterparts. Regarding the effect of teaching experience on self-efficacy of teachers, multiple studies showed that lack of association in this regard (Antoniou et al., 2017; Meidrina et al., 2017; Kuyini et al., 2018; Savolainen et al., 2022). Contradictory to this, Wray et al. (2022) reported teaching experience positively impacting teachers' self-efficacy. Regarding the effect of age on teachers' self-efficacy, a number of studies have found that no significant difference in self-efficacy among teachers with various age groups (Antoniou et al., 2017; Kuyini et al., 2018; Kazanopoulos et al., 2022). Studies also indicated that class size (Hofman & Kilimo, 2014), training in SNE (Hofman & Kilimo, 2014), and teachers' qualifications (Woodcock et al., 2023) have no impact on teachers' self-efficacy. Contrary to this, Tzivinikou (2015) showed that in-service training in SNE has positive effect on self-efficacy of teachers in inclusive education.

Multiple studies reported existence of positive and strong relationship between teachers' self-efficacy and attitudes towards inclusive education. For instance, Yada et al. (2022) indicated the existence of positive and moderate relations between teachers' attitudes towards inclusion and self-efficacy beliefs. A statistically significant, strong and positive relationship was also reported between teachers' self-efficacy and attitude in a study conducted in Tanzania by Hoffman and Kilimo (2014).

Contradictory findings were reported concerning the casual relationship between teachers' self-efficacy and attitudes towards inclusive education, but there is an agreement that both constructs predict teachers' intentions to use inclusive instruction strategies (Savolainen et al., 2022). In contrast, the study by Savolainen et al. (2022) reported teachers' self-efficacy beliefs as a cause affecting their attitudes toward inclusion rather than vice-versa. Accordingly, increase in self-

efficacy leads to more positive attitudes of teachers towards inclusive education. The finding is consistent with past study by Werner et al. (2021), which higher self-efficacy regarding inclusion leads to positive attitudes about inclusion. Whereas, a study conducted by Alsarawi and Sukonthaman (2023) on pre-service teachers indicate that their attitude and knowledge about inclusion predicted teachers' self-efficacy to use inclusive instruction strategies.

2.7.3 Attitude

Ajzen indicated that an attitude is 'a disposition to respond favourably or unfavourably to an object, person, institution, or event' (Ajzen, 2005, p.3). Forlin (2010), Mieghem et al. (2020) and Werner et al. (2021) indicated that attitude of teachers is one major factor for the effective implementation of inclusive education. In addition, Ogadho et al. (2015) underlined the pivotal role of attitude of teachers in curriculum implementations and stated positive attitude enhances success of inclusion while negative attitude is an impediment to inclusion. Systemic review of studies conducted by Mieghem et al. (2020) indicated that teachers' attitude is influenced by their knowledge of disabilities. Yada et al. (2022) and Savolainen et al. (2022) suggested that teachers' attitude is associated with teachers' intention to use inclusive instruction strategies. Previous research findings into attitudes of teachers towards inclusive education have been inconsistent and contradictory. For example, review of literature conducted by Boer, Pijl & Minnaert (2011) suggest that teachers are often having negative or neutral attitude towards inclusion which is due to lack of resources and adequate training they receive. They further argued that teachers' attitudes toward inclusion are frequently informed by practical concerns about how inclusive education might be implemented rather than ideological justifications. A study conducted by Ogadho et al. (2015) on Kenyan teachers drawn from Kisumu County revealed prevalent negative attitudes of teachers towards inclusion and children with disabilities that adversely impacted curriculum

implementation at schools. Similar findings were reported by another study conducted by Osero & Abobo (2015) at Nyamira County of Kenya which the attitude of teachers towards inclusive education was negative due to factors like teacher's knowledge and skill gap, low achievement of SNE children and increased indiscipline cases. The research study by Alzemaia (2019) also found similar findings with regard to attitude of teachers, at pre-training stage, towards inclusive education in Saudi Arabia. Dapugong (2014) revealed neutral attitude of teachers towards inclusion in Thailand schools. In contrary, Johnstone & Chapman (2009) documented positive attitude of teachers about inclusive education in Lesotho. Study from Malaysia documented moderate level of teachers' attitude towards inclusive education (Zainalabidin & Ma'rof, 2021). Local studies conducted by Jaffer & Abdulfettah (2019) assessed attitude of teachers in Southern Ethiopia towards inclusive education using the modified version of Cochran's Survey of Teacher's Attitudes towards Inclusive Classrooms (STATIC). The study indicated that teachers were found out to have slightly positive attitude towards inclusion. Neutral attitude of teachers towards inclusive education was reported by a study conducted by Moti et al. (2018) in Nekemte town.

Inconsistent research findings were reported on teachers' attitude towards inclusive education when compared against some of their background information. For instance, Sesay (2018) reported no significant relationship between the attitudes towards inclusion and the independent variables considered for the study which were gender, age, educational background and teaching experience of school teachers in Lesotho. Similarly, a study conducted in Ghana also revealed that gender was not related to teachers' attitude towards inclusive education but it was affected by teaching experience, in which those with many years of experience were having positive attitude towards inclusion (Gyimah, Ackah & Yarquah, 2010). Similar findings was reported by (Hofman & Kilimo, 2014) in which a significant and positive relationship was found between working

experience in inclusive education and attitude towards inclusion of students with disabilities. Study conducted by Dapugong (2014) in Thailand indicated that no significant difference in attitudes of teachers when grouped according to gender, age, degrees held and teaching experience. Additionally, according to Hofman & Kilimo (2014), there is no significant difference between male and female teachers' attitudes towards students with disabilities in inclusive education. Local study conducted in southern Ethiopia revealed contrary findings, which showed a statistically significant difference in attitude between male and female teachers, in favour of female teachers (Jaffer & Abdulfettah, 2019). They also found that significant difference in attitude exist among those trained and non-trained teachers on SNE, in favour of those trained. It was also reported that secondary school teachers tend to have favourable attitude towards inclusion than their counterparts at primary schools. The study conducted at Saudi Arabia by Alzemaia (2019) suggest that age, level of experience in general and special education, and qualification type and level were not related to the attitude of teachers towards inclusive education. But, lack of knowledge about inclusion, and lack of confidence in their abilities to support and teach students with SEN were reported as main factors affecting the attitudes of teachers. Similar findings were reported by Jaffer & Abdulfettah (2019) in which age and teaching experience were not affecting attitudes of teachers towards inclusion. This is consistent with the Ackah (2010), which showed that gender, school location, teaching experience and professional qualification of teachers were found to have no effect in their attitude towards inclusive education.

Numerous studies have attempted to explain factors affecting attitude of teachers towards inclusive education. For instance, Malinen & Savolainen (2008) argued that the type and severity of the students' disability affect teachers' attitude towards inclusion. This view is supported by Gyimah et al. (2010) who argued that the type of disability, prevalence and associated educational needs

affect attitude of teachers. According to the study's findings, the majority of regular teachers were willing to include students with mild-moderate disabilities but not those with severe profound ones. Ogadho et al. (2015) identifies success in implementing inclusion, student characteristics, training and levels of support as factors affecting attitude of teachers towards inclusion. The availability of support services for teachers in regular schools as a factor affecting attitude of teachers was also acknowledged by Gyimah et al. (2010).

2.8 Theoretical Framework

Ajzen's theory of planned behaviour was applied to explain teachers' practice of inclusive instruction strategies to teach *SVI* in regular schools. According to this theory, teacher's behaviour is attributable to variables like attitude and self-efficacy (Ajzen & Madden, 1986; Ajzen, 2005). People's behavior is strongly influenced by their confidence in their ability to perform (perceived behavioral control) in which Bandura (1997) revealed existence of strong relation between self-efficacy and behaviour. Ajzen (1991) asserts that attitudes towards the behaviour, subjective norms, and perceived behavioural control may all be used to predict intentions to engage in a behaviour with high accuracy. The perceived behavioural control is similar to what has been regarded as self-efficacy in Albert Bandura's social cognitive theory. Accordingly, teachers' knowledge, self-efficacy and attitude were used to explain their behaviour, which is practice of inclusive instruction strategies to teach *SVI* in regular schools.

The study also followed the social model of disability that considers disability as a socially constructed phenomenon. The model was inspired and developed to address limitations of the medical model of disability in 1960s and 1970s through the Union of the Physically Impaired Against Segregation (UPIAS) in Britain (Barnes, Oliver & Barton, 2008). It was theorized and coined by the Michael Oliver, who is considered as well-known scholar in the field (Retief &

Letsosa, 2018; Terzi, 2004). The UPIAS manifesto document entitled 'Fundamental Principles of Disability' is considered important in promoting the social model of disability. According to UPIAS (1976), 'disability is a situation caused by social conditions, which requires for its elimination' (p3). Oliver (1990) in its article that compared individual and medical models of disability, stated that '*It is not individual limitations, of whatever kind, which are the cause of the problem but society's failure to provide appropriate services and adequately ensure the needs of disabled people are fully taken into account in its social organisation*' (p 2). This implies the need for change of physical, attitudinal, communication and social environments to ensure equal participation of people with impairments in a society (Mantey, 2014).

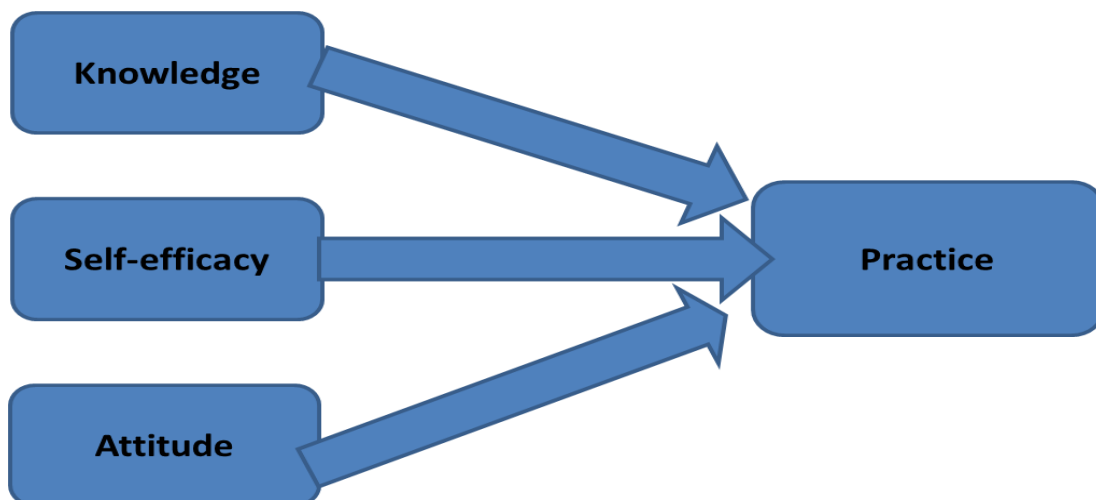
In social model of disability, the system has to be adjusted to accommodate varied educational needs of children with disabilities. According to Rieser (2012), the discrimination against people with disabilities is socially constructed one, which has little to do with impairments. Having impairment, according to Rieser, 'does not make you any less of a human being'. To maximize potential of children with disabilities, the social model emphasizes identification and removal of barriers, which could be of attitude, organizational, environmental, etc. This model welcomes diversity and caters for the need of children with special needs rather than forcing the child to fit in to the existing system. Hence, the education system must be adaptable to cater to the distinct disability-specific requirements of SVI by formulating diverse techniques, such as the use of appropriate instruction strategies by teachers. This model advocates for the idea that individuals with visual impairments are not incapacitated just because of their vision loss, but rather because of insufficient resources and support systems in inclusive education environments. In order to effectively address the educational requirements of students with special needs, such as those with visual impairments, it is imperative for teachers to possess the requisite knowledge, self-efficacy,

and positive attitude. In order to effectively address the obstacles faced by SVI in inclusive education, it is vital for the education system to provide suitable resources and support systems.

2.9 Conceptual Framework

Based on the above presented theoretical models, the following conceptual framework is developed. The conceptual framework outlines how the study approached teachers' practices of inclusive instruction strategies in teaching students with visual impairment in regular schools. The dependent variable is teachers' practice of inclusive instruction strategies to teach SVI in regular schools, while the independent variables include teachers' knowledge about inclusive instruction strategies that are used to teach such students, their self-efficacy to teach SVI, and attitude towards inclusion of SVI in regular schools. The model considered the cognitive component (knowledge), the affective component (attitudes), and the behavioural component (self-efficacy) to predict teachers' practices of inclusive instruction strategies to teach SVI in regular schools.

Figure 1: Conceptual Framework on Teachers' Practices of Inclusive Instruction Strategies to teach SVI



CHAPTER THREE

METHODOLOGY

This section presents the methodological approach that the study followed to address the specific objectives of the study outlined in chapter one. The design, data sources, data collection instruments, analysis approach and ethical considerations were discussed as follows.

3.1. Research Approach and Design

The study employed the Mixed Methods Research (MMR) approach, which constituted collecting both quantitative and qualitative data in a study. Scholars like Creswell (2012), Johnson and Onwuegbuzie (2004) and Leavy (2017) underscored the importance of applying mixed research design for clearly describing, explaining and evaluating research problems or issues. Creswell (2012) further explained that mixed methods research helps to build on the strengths of qualitative and quantitative approaches.

The three core designs in MMR are convergent, explanatory sequential and exploratory sequential (Creswell & Creswell, 2018; Leavy, 2017). This study employed the explanatory sequential design in which quantitative data was collected using appropriate tools before embarking on the qualitative data collection. The qualitative data was used to explain or elaborate the results in the quantitative component of the study (Creswell, 2015). In the quantitative study, teachers' knowledge about inclusive instruction strategies used to teach *SVI*, their self-efficacy to teach *SVI*, attitude towards inclusion of *SVI* in regular schools and teachers' practices of inclusive instruction strategies in teaching *SVI* in regular primary and secondary schools of Addis Ababa was assessed. Adaptations made by schools to support education of *SVI* were also assessed in this phase of the

study through observing IERC. Students with visual impairment attending primary and secondary schools were also approached to assess their response regarding the availability of supports in inclusive education setting and challenges they encountered in regular schools.

The qualitative study, considered as second phase of the study, was executed considering findings emanated from the quantitative part. According to Creswell (2015), this design will help to explain any surprising or unexpected results reported in the quantitative phase of the study. Appropriate study participants were identified for interviews after the unexpected or surprised quantitative study findings were picked for follow-up.

3.2 Data Sources

The study utilised both primary and secondary data sources. Survey questionnaires, observations, and key informant interviews were employed to collect primary data from diverse groups of respondents selected from primary and secondary schools in Addis Ababa. IERC observation also helped to capture school level adaptations available to support SVI. Various local policy documents, legislations, working documents and guidelines were reviewed to assess issues pertaining to support the education of students with special needs in general and that of SVI in particular. The key sources of data for this study consisted of primary and secondary school teachers, IERC coordinators, and SVI.

3.3 Population, Sample and Sampling Procedures

Population

Cohen et al. (2018) underscored the importance of defining the population of a study that the findings will be generalized. It is not feasible to gather data from the whole population of the study, but rather suggest taking sample that is considered as subset of the total population. Identification

of the total population in advance helps to decide representativeness of the sample drawn from the population.

In this study, all government owned regular primary and secondary schools in Addis Ababa that have enrolled SVI make up the study's population. School teachers that teach SVI in regular government primary and secondary schools of Addis Ababa were part of the target population for the study. Moreover, all SVI enrolled in regular government primary and secondary schools of Addis Ababa were target population of the study.

According to the 2011 (2018/2019) Education Statistics Annual Abstract of Addis Ababa City Administration Education Bureau (AACAEB) (2020), there are 232 government primary schools and 73 secondary schools across the 10 sub-cities of Addis Ababa. It also indicated the availability of 12,535 primary school teachers and 5,423 secondary school teachers at government schools. The following table presents summary of the population size across the 10 sub-cities:

Table 1: Target Population of the study

Sub-city	No of:			
	Government primary schools	Government Secondary schools	Teachers at government primary sch.	Teachers at government secondary sch.
Addis Ketema	23	5	967	525
Akaki Kality	26	10	1334	606
Arada	23	8	918	528
Bole	22	8	1300	600
Gullele	20	7	1181	504
Kirkos	21	5	743	311
Kolfe Keranio	28	8	2202	719
Lideta	18	3	715	247
Nefas Silk Lafto	24	10	1455	597
Yeka	27	9	1720	786
Total	232	73	12,535	5,423

Source: Extracted from 2011 (2018/19) Education Statistics Annual Abstract of the AACAEB

Sample Size

Quantitative

To calculate the sample size, the population size and the error margins were taken into account in which confidence levels and confidence intervals are used (Cohen et al., 2018). In social science studies, the confidence level is commonly represented as 95 %. In this regard, Yamane (1973) proposed a more straightforward formula for calculating sample size, which was used to determine the sample size in the current study. Accordingly, for a 95% confidence level and $p = 0.05$, a sample size n would be:

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

Where, N is the population size and e is the level of precision.

Using this formula, the sample size determined for school teachers comes to be 388. The study considered additional of 10% of sample size to consider for any attrition during the study.

Sampling Procedure

To select respondents of the study, multistage sampling technique was applied. Cohen et al. (2018) explained that multi-stage sampling involves taking samples from samples in stages. Edmonds and Kennedy (2017) indicated that multistage sampling technique can combine any of the probability sampling procedures like simple random sampling, cluster sampling, stratified sampling and systematic sampling to select individuals from the given population. According to Best, Kahn & Jha (2017), this kind of sampling procedure is considered as appropriate when the geographic distribution of study groups is widely scattered.

The inclusion criteria to select sample sub-cities, schools as well as teachers depend mainly on the availability of *SVI*. After reviewing the annual abstract (AACAEB, 2020) available during the planning stage of the study and also taking lesson from the pilot study, the researcher approached all the education offices of the 10 sub-cities and enquired list of primary and secondary schools that enrolled *SVIs*. The data published on the annual abstract of the AACAEB was not aligned with the one accessed from the respective education offices of sub-cities. Quite few schools were found out to have children with blindness; whereas those students with low vision were found in relatively more number of schools. One serious limitation noted was poor identification of students with low vision, which schools wrongly identified those students whose eye was properly functioning with eyeglass as having low vision. The following are the stages for the sampling in this study:

Stage 1: Sub-cities

The researcher identified sub-cities for data collection based on the information gathered from the 10 sub-cities regarding list of primary and secondary schools that enrolled student with visual impairments in 2022/23 academic year. Initially, the researcher planned to take 50% of the sub-cities for the purpose of data collection. Accordingly, Akaki Kality, Gullele, Kolfe Keranio, Lideta and Yeka sub-cities were randomly selected for data collection using lottery method. The intended sample size of teachers teaching *SVI* was not attained after collecting data from these sub-cities. To this end, Arada, kirkos and Addis Ketema sub-cities were picked using lottery method for additional data collection. Arada and Gullele sub-cities were among those sub-cities with high enrollment number of *SVI*. Accordingly, they become part of the data collection for the pilot as well as the main study. The schools that were included in the pilot data collection in the two sub-cities were subsequently omitted from the main study's data collection.

Stage 2: Schools

Three primary and three secondary public schools that enrolled *SVI* were randomly selected from each of the Akaki-kality, Gullele, Kolfe-keranyo, Lideta and Yeka sub-cities. Two primary schools from Arada, one secondary school from kirkos and one primary school from Addis Ketema sub-cities were randomly picked using lottery method and approached for data collection. Consequently, a total sample of 19 primary schools and 15 secondary schools were selected for the purpose of primary data collection. Please refer to Annex 1 for a comprehensive list of primary and secondary schools that were contacted for data collection in the eight sub-cities.

Stage 3: Respondents

After collaborating with the principals of the respective sampled schools, the sampling frame was prepared at school level. The sampling frame includes the list of teachers who were teaching students with visual impairments (*SVIs*) in the sampled schools during the data collection period. Sample teachers were then picked randomly using the lottery method. The survey questionnaire was completed by a total of 421 teachers who were teaching *SVI* in the selected primary and secondary schools. Please refer to Annex 2 for specific information regarding the sample size at each schools.

SVI were also sampled purposively and randomly from each of the schools approached for data collection. The students were picked from the sampled schools in consultation with the respective *SNE* specialists and school leaders. A total of 108 *SVI* completed the survey questionnaire with the assistance of trained interviewers. Out of the 108 completed questionnaires, 8 were discarded due to incomplete data. At schools with fewer enrollment of *SVI*, those available were used for data collection while, at those schools with relatively high number of students, lottery method was

applied for sampling purpose. Available IERCs were also observed in close consultation with SNE specialists found at visited schools.

Qualitative

After identifying quantitative results for follow-up, appropriate respondents were drawn from the schools visited for qualitative data collection. School teachers, IERC coordinators and students with visual impairment were approached for interview on issues that need further elaboration.

Availability and purposive sampling procedure was applied to select respondents from the primary and secondary schools for the qualitative data collection. According to Cohen, Manion & Morrison (2007), purposive sampling targets those respondents considered to be 'knowledgeable people' to acquire in-depth information on matters of interest to the researcher. Respondents were handpicked based on their 'typicality or possession of the particular characteristics being sought' (p.115). SNE specialists were picked for interview on availability basis, those coordinating the center activities were considered for data collection. Those SVI attending higher grade levels were picked for interview as they will be able to give structured responses.

3.4 Data Collection Instruments

Due to the mixed nature of the study, both quantitative and qualitative data collection tools were used. Accordingly, questionnaire, interview, and observations were applied for primary data collection.

Questionnaires:

In this study, survey questionnaire is prepared to gather data from primary and secondary school teachers teaching SVI and also for the SVI. The survey questionnaire for school teachers and

students were prepared after extensive review of related literature. Questionnaires for school teachers were self-administered while for SVI it was administered through the assistance of trained interviewers.

Teachers' survey questionnaires was used to gather demographic characteristics of teachers, assess their knowledge about inclusive instruction strategies used to teach SVI, their self-efficacy to teach SVI and their attitude towards inclusion of such students in regular schools as well as their practices of inclusive instruction strategies in teaching SVI in regular schools. It also assessed the status of supports for teachers from school leaders and SNE specialists for improved inclusion practices.

Items used to measure the constructs of the study were prepared after consulting available resources like Teacher Attitudes Toward Inclusion Scale (TATIS), Attitudes Towards Inclusion Scale (ATIS), and teacher efficacy for inclusive practices (TEIP) scales. These were contextualised to the unique needs of SVI in inclusive education. The questionnaire contains dichotomous True/False questions aimed at assessing teachers' knowledge about inclusive instruction strategies used to teach SVI in regular schools. Questions were also included to assess teachers' self-efficacy to teach SVI using (1) strongly agree, (2) agree, (3) uncertain, (4) disagree, and (5) strongly disagree options. Concerning attitude of school teachers towards inclusion of SVIs in regular schools, items were developed using five-point scale; (1) strongly agree, (2) agree, (3) uncertain, (4) disagree, and (5) strongly disagree. The extent of teachers' practices of inclusive instruction strategies in teaching SVI was assessed using the following measurement scale; (0) Never, (1) Rarely, (2) Sometimes, (3) Very often and (4) Always.

Survey questionnaire instrument is also prepared for SVI that helped to detail their opinions regarding existing school/classroom level supports and challenges they are facing while

mainstreamed in regular schools. Moreover, students have rated the extent of practice of some inclusive instruction strategies applied by their teachers (Refer Annex 3 for details of tools). Both instruments were refined through pre-piloting, pilot-test, backward and forward translations and reliability and validity checks. Details of the instrument validation is presented in the pre-pilot and pilot study sections below.

Observation

Observation is one of the research processes that give an opportunity to gather first-hand information in naturally occurring conditions (Cohen, Manion & Morrison, 2007). Observations could be classified as highly structured, semi-structured and unstructured one depending on the degree of continuum of structure required to do the observation. In this study, IERCs were observed using the structured observation approach after preparing checklist items used to assess availability of resources and supports services for SVI at the sampled schools. The list of resources expected to be available at IERC and other supports expected to be provided by IERC were included in the checklist including availability of textbooks in braille, tactile materials, abacus, skill training, etc. (Refer to Annex 3 for details). The non-participant observation technique was applied through informing the purpose of the visit to school principals and IERC coordinators. The observation was made by the researcher and trained research assistants.

Interview

Semi structured interviews were conducted face-to-face with qualitative data sources. In Semi structured interview, guiding questions were prepared in the form of open-ended questions (Cohen, Manion & Morrison, 2007). The same authors suggest the need to consider prompts and probes in semi-structured interviews which prompts are used to clarify topics or questions by interviewer while probes are used to extend and elaborate responses of interviewee.

The semi-structured interview with school teachers, IERC coordinators, and SVI was conducted to explain some of the results identified for follow-up from the quantitative study. Interview questions were prepared based on the findings of the quantitative study which emphasis was given for findings which needs further explanation from various respondents. Interviews conducted were tape recorded after securing consent from respondents and transcribed verbatim to conduct the data analysis. Detailed interview note was taken for those interviewees who were not willing to get recorded.

3.5 Data Collection Procedures

The researcher chose six experienced education supervisors working in different sub-cities to facilitate and assist the quantitative data collection at the sampled primary and secondary schools. These supervisors received training on the purpose of the study, the instruments used to collect data, and the ethical considerations that must be adhered while collecting data. The sampling procedure, the survey questions for teachers and students, and the IERC observation checklist were all thoroughly discussed. Moreover, they received training on how to build rapport with research participants and school administrators. They were also trained on how to identify students with low vision as mis-identification of such children was experienced during the pilot study. To enhance quality of data collected, the researcher conducted on spot checks at schools while data collectors were gathering data.

Permission to collect data was secured at sub-city education offices and sampled schools. School principals were approached to get permission to gather data from school level respondents including teachers, SVIs and IERCs. Verbal consent of the respondents' was secured after explaining the purpose of the study, limits of confidentiality and anonymity of respondents. Survey questionnaire for the school teachers was self-administered, which questionnaires were distributed

after explaining major points indicated in the cover letter including anonymity and confidentiality of their response. The questionnaire for students was administered through the assistance of the trained data collectors. The data collectors read the items in the questionnaire to the SVI with appropriate pace, and recorded their response accordingly. To minimize interruption of SVIs from their learning, survey questionnaire were mostly administered during free periods, like on maths and other subjects which students are not expected to attend class. IERC observations were conducted after securing permission from school principals and IERC coordinators.

For the qualitative data collection, the researcher arranged conducive environment for interviews. Respondents were informed about the purpose of the interview, their anonymity and confidentiality of the information collected. For respondents who agreed to have their interviews audio recorded, the researchers did so; for those who objected, thorough interview notes were taken.

3.6 Data Analysis

Due to the nature of the planned study, both quantitative and qualitative data analysis procedures were utilized.

Quantitative

The data was coded and analyzed using Statistical Package for the Social Sciences software v.20. Descriptive statistics were conducted to summarize the demographic characteristics of the study participants. Moreover, descriptive statistics, including mean and standard deviation, was generated for the knowledge, self-efficacy, attitude and practice subscales. The magnitude of the strength and the direction of relationship among the study variables was assessed using Pearson correlation test. Parametric inferential statistics were conducted to assess difference in teachers'

knowledge, self-efficacy, attitude and practices against their demographic characteristics like sex, educational qualification, experience and training received on SNE/inclusive education using independent t-test and One Way ANOVA as appropriate. Hierarchical multiple regression test was conducted to explore the effects of knowledge, self-efficacy and attitude on teachers' practice of inclusive instruction strategies in teaching students with visual impairment in regular schools by controlling the effect of background variables like gender, years of experience, educational qualification and training on SNE/IE. Unique contribution of the independent variables on the variance accounted on the dependent variable was calculated using the hierarchical multiple regression test. Normality and multicollinearity tests were conducted to evaluate the statistical assumptions of the test.

Qualitative

According to Lodico, Spaulding & Voegtle (2006), in qualitative research data analysis occurs throughout the study which also informs the process of data collection. It also suggests that steps of qualitative data analysis vary based on the research question posed and approaches taken to address research questions. It was indicated that qualitative data analysis follows common steps of preparing and organizing data, reviewing and exploring data, coding data into categories, constructing descriptions of people, places and activities; building themes and testing hypothesis; and reporting and interpreting data (pp. 301-302). The preparation and organization of data includes transcription of interviews to verbatim which involves writing exact words of respondents. Transcribed interviews assist in integrating quotes of verbatim responses which is believed to keep flavour of the original data (Cohen, Manion & Morrison, 2007). It is proposed that, in the second step, the researcher immerses him/herself in the data through reading carefully to understand details of it. The third step, coding data, helps to identify various segments of data which are considered to be related ones to form broad categories inductively. At this stage, it is

suggested that the researcher continually read, reread and re-examine all the data to make sure appropriate coding was made and also to ensure exhaustiveness of categories emerged. ‘Constructing descriptions of people, places and activities’ primarily aims at giving thick descriptions of people, places and events. This step provides rich and in-depth descriptions of real experiences, places and events through integrating field notes and interviews with already identified codes. Following this step, the next one involves identification of major and minor themes, considered as big ideas, in the coded data. Themes identified were used to interpret or explain the data collected. The last step of the analysis procedure involves reporting and interpreting data which requires research reporting writing and interpretation of the research on the data gathered. In summary, the study followed the steps outlined above, which thematic analysis was conducted to summarize the qualitative data generated through interviews.

As suggested by Lincoln and Guba (2013), the researchers employed triangulation of sources and member checks to assure credibility of the study findings. Data was collected from students and SNE specialists for triangulation purposes. Moreover, the copy of the research report was sent to four of the six SNE specialists, who were easily accessible, to take part in the member checking procedure; three of them were satisfied and requested no change while the fourth one did not respond.

3.7. Ethical Considerations

After carefully examining the proposal, with an emphasis on its relevance and ethical considerations, the Department of Special Needs and Inclusive Education of the Addis Ababa University, Ethiopia granted approval to conduct the research (Refer to Annex 8). The following ethical principles were adhered:

Informed consent and voluntary participation: the participants of the study were provided with information regarding the study's objectives, the process of their selection, their involvement in the study, and their right to withdraw from the study at any time. These clarifications facilitated the assurance of the participants' voluntary engagement in the study. The researcher did not compel teachers and SVI to participate in the study. An attempt was undertaken to persuade the participants of the study that the information they provide is crucial for the study's success. The consent and assent forms used for the study undertaking are attached in Annex 10.

Confidentiality: the confidentiality of participants' personal data and their response to data collection instruments such as questionnaires and interviews was strictly maintained. Participants were informed about how the researcher would make use of their personal data collected during interviews and using questionnaire. Additionally, they were notified that the collected data will solely be utilised for the study's objectives. Furthermore, the participants were duly notified that the collected data would be handled in an anonymous manner, ensuring the exclusion of their identities and other sensitive personal details.

Getting permission: Permission was obtained from the respective school principals before conducting data collection at primary and secondary schools. School principals were informed about the purpose of the study, required information from schools and participants of the study. The participation of SVI was also made on voluntary basis, which consent was sought from school principals and SNE specialists on their behalf, for those below 18.

Minimising the risk of harm: this pertains to the maximization of benefits (beneficence) and reduction of harm (non-maleficence). The study, to the greatest extent possible, adhered to the concept of no harm to participants. The researcher ensured that the typical teaching-learning

activities at schools were not severely impacted during the data collection period. Schools were made aware that data collection from SVI will take part during their free time, like, in Maths period, which they will be out of classrooms.

3.8. Pre-Piloting and Pilot Study

Pilot testing is considered as important part and step of both qualitative and quantitative studies in ensuring quality (Mertens, 2015). The study employed both pre-piloting and pilot study to assess any potential and unforeseen issues that could affect the main study. Pre-piloting and piloting stages were considered as parts of framework that helps to plan research (Cohen, Manion & Morrison, 2007). The pre-piloting stage helps to generate items for the pilot study stage. The following sub-sections presents the details of these steps.

3.8.1 Pre-piloting

During the pre-piloting phase of this study, informal conversations were conducted with professionals and experts in the field. These conversations aimed at identifying resources and fundamental issues that form the basis of the study. Accordingly, informal consultations were conducted with specialists in the field of SNE/IE at the MoE, IERC heads at elementary and secondary schools in Addis Ababa. SNE experts and officials from AACAEB were also approached to gather information regarding schools that enrolled SVI. Having this information assisted in picking sub-cities and schools which were included in the sample.

Polit and Beck (2006) suggested undertaking a rigorous scale development procedure to validate new scales like the case in the current study. Accordingly, they suggest undertaking content validity index for items (I-CVI) and content validity index for scales (S-CVI). Content Validity Index (CVI) was used to judge whether items prepared are aligned with the measured domain or not. Waltz, Strickland, & Lenz (2005) defined content validity as the determination that "items

sampled for inclusion on the tool adequately represent the domain of content addressed by the instrument" (p. 165). So, the main focus of content validity is to assess the extent to which items prepared represent the measured construct. Lynn (1986) also suggested computation of the I-CVI and S-CVI to validate items and scales in scientific manner. An item to be content valid, it has to get rating of 3 or 4 by panel of experts and the I-CVI is calculated as a proportion of experts that rated as content valid (Lynn, 1986; Polit and Beck, 2006) while the S-CVI is calculated as the proportion of total items judged content valid (Lynn, 1986). It can also be calculated as the average of the I-CVI scores for all items on the scale, and is called S-CVI/Ave. Lynn (1986) suggested the minimum acceptable I-CVI of 0.78, for 9 experts, while the maximum is 1, which in the latter case all experts judged the particular item as content valid (either 3 or 4). For six experts, the minimum acceptable I-CVI was suggested to be 0.83 (Lynn, 1986).

According to Lynn (1986), CVI procedure involves two major stages; development stage and judgment-quantification stage. The first stage deals with preparation of items that reflect the construct. In the second stage, judgment-quantification will be undertaken for each of the items and the scale as a whole through the use of panel of experts. A minimum of five experts was suggested to undertake the content validity procedure. If items were rated to be less relevant, revising, deleting or substituting of items will be undertaken (Polit and Beck, 2006; Lynn, 1986). For the current study, a panel of six subject matter experts was identified as judges of the instruments. The panel constituted two PhD students attending SNE at Addis Ababa University (AAU), one PhD student who is SNE senior lecturer at AAU, one SNE Lecturer from AAU, one associate professor of education from Kotebe University and one senior special needs expert from the federal MoE. The judges were approached by the researcher and informed about the purpose of the study and also the importance of validating the data collection instruments. The judges

evaluated each of the items prepared on their relevance and clarity using a four-point rating scale. To judge relevance of items in the construct, the four-point ordinal rating scale used was 1= the item is not relevant to the measured domain, 2= the item is somewhat relevant to the measured domain, 3= the item is quite relevant to the measured domain and 4= the item is highly relevant to the measured domain. For clarity, the scale constituted: 1= the item is not clear, 2= the item needs major revision to be clear, 3= the item needs minor revision to be clear, and 4= the item is clear. In addition to the rating of the items on relevance and clarity, experts suggested how best items could be improved on their clarity. To calculate the I-CVI and S-CVI, the relevance rating by the panel of experts was recoded as 1 (rating 3 or 4) or 0 (rating 1 and 2). The following table present the summary of the CVI outcome, the details of each item is presented in Annex 4.

Table 2: Summary of Content Validity Index

No	Instrument type/Scale	Total # of items in the scale	Minimum and maximum I-CVI	# of Items rated as content valid	S-CVI/Ave
1	Teachers Questionnaire				
	Knowledge	23	Min=0.67, Max=1.0	23	0.93
	Attitude	20	Min=0.67, Max=1.0	16	0.91
	Self-efficacy	12	Min=0.67, Max=1.0	9	0.86
	Practice	37	Min=0.5, Max=1.0	31	0.91
	Overall	92	Min=0.5, Max=1.0	79	0.91
2	Students Questionnaire	31	Min=0.83, Max= 1.0	28	0.95
3	Inclusive Education Resource Center Observation checklist	33	Min=0.83, Max= 1.0	33	0.99

As indicated in Table 2 above, the majority of items prepared across the various tools were judged to be content valid as the I-CVI calculated satisfy the accepted standard, minimum of 0.83 (Lynn, 1986). The S-CVI/Ave was also found out to be more than 0.8 which was set as acceptable standard by scholars like Polit & Beck (2006). Based on the analysis, some items were deleted from the scales prepared. The panel of experts also rated on the clarity of items across the three instruments which appropriate modifications were made to further clarify items. For instance, one of the questions included in the original scale to measure knowledge of teachers was ‘There is a need to modify curriculum materials for SVIs.’ This item was judged to be content valid by the panel of the experts but not clear. Four out of the six panel of experts suggested to clarify the term ‘curriculum materials’ so that teachers could easily understand the intention of the item. Accordingly, this particular item was broken-down and presented in to four clear items, which include ‘The teacher has to adapt his/her teaching style when there is a student with visual impairment in class’, ‘Instructional materials need to be contextualized to the needs of SVI’, ‘Learning assessment practices need to be adapted to the needs of SVI’ and ‘Textbook contents can be modified to accommodate special needs of SVI’. Other similar items included were deleted to avoid repetition of ideas.

As indicated in Table 2 above, based on the six members panel of experts’ judgment, 13 items were deleted from the instrument prepared for school teachers while 28 of the 31 items were rated content valid for the survey tool prepared for SVI. All the items were retained for the IERC observation checklist instrument but items were modified for clarity purposes based on the suggestions from the panel of experts.

After finalizing the validity procedure, the data collection instruments were translated to Amharic language for ease of administration. The original instruments were prepared in English which was then translated to Amharic by the investigator of this study and checked by a language expert. In the second phase, the Amharic instruments were translated back to English by a special needs teacher. Comparison was made between the original English version and the back translation version. For example, the original question on teachers' questionnaire which states 'Instructional materials need to be contextualized to the needs of SVI' was back translated as 'Instructional materials can be contextualized to the needs of SVI' which the original statement was maintained in both the English and Amharic versions. This and other minor adjustments were accordingly made and resulted in having final Amharic versions of the instruments. After making the necessary editing and adjustments, the instruments were prepared for the next phase of the study, which is pilot testing of the instruments.

3.8.2 Pilot test

Lodico, Spaulding & Voegtle (2006) suggested conducting the pilot test with small group of respondents considered similar with the final sample as it helps to check clarity of language and terms, spelling and grammar, and overall psychometric properties of instruments. Aligned with this, Creswell (2015) indicated the purpose of piloting in revising instruments after conducting series of reliability tests and item analysis. It will also help to make changes in interview items based on feedbacks and responses of pilot respondents. Mertens (2015) also suggests the researcher, during pilot study, gathers feedback on the clarity of the instrument items. Lodico, Spaulding & Voegtle (2006) also indicated the use of pilot test to establish reliability and validity of instruments prepared for data collection. Accordingly, for this study, the pilot test was

conducted at Arada and Gullele sub-cities of Addis Ababa, as they were convenient for the researcher in terms of their location.

The pilot study employed the MMR approach which constitutes collecting both quantitative and qualitative data. The pilot study used the explanatory sequential design in which quantitative data was collected using appropriate tools before embarking on the qualitative data collection. The qualitative data explained the results in the quantitative component of the study (Creswell, 2015). In the quantitative study, knowledge, self-efficacy, attitude and practices of school teachers of inclusive instruction strategies in teaching students with visual impairment in regular schools was assessed. Adaptations made and supports provided by schools to improve the education of SVI was also assessed. The qualitative study, considered as second phase of the study, was executed considering findings that emanated from the quantitative part.

The researcher took two primary schools (Menelik II and Dil Betigil) and four secondary schools (Tikur Anbesa, Belay Zeleke, Menelik II and Entoto Amba) for the pilot study. Selection of teachers and students with visual impairment was done in close consultation with school principals and SNE specialists of the respective schools. Not all teachers of a school were found to teach students with visual impairment. Those teachers teaching such students were identified in consultation with school principals. At those schools with relatively large number of eligible teachers, example Menelik II primary schools, teachers were picked randomly using lottery method through the support of the school principal. In schools which have fewer numbers of students with visual impairment, they were having fewer teachers for the sampling, which availability sampling was used. The same procedure was followed to select students, in close consultation with respective schools' leaders and SNE specialists. To get structured responses from SVI, Grade 5 and above students were approached to administer the survey questionnaire through

the assistance of trained interviewers. A total of 67 teachers took part in the pilot study from both primary and secondary schools found at Arada and Gullele sub-cities of Addis Ababa. They filled-in the survey questionnaire prepared to gather relevant data for the pilot study. SVI were also approached from the two primary schools and four secondary schools, totaling to 25 students.

Psychometric Properties of Instruments

The main purpose of conducting the psychometric properties of the questionnaire prepared for school teachers is to assess its internal consistency and amend it for the actual study. According to Mertens (2010), the most frequently used internal consistency checks are Cronbach's coefficient alpha and Kuder-Richardson formulas like KR-20 and KR-21. The psychometric properties of the various construct for the primary and secondary school teachers' questionnaire were conducted using Cronbach's Alpha reliability analysis and are presented as follows:

Construct 1: Knowledge

The items prepared to measure knowledge of teachers were designed as dichotomous true/false type which Cronbach's Alpha reliability analysis was used to check the internal consistency of the items. As indicated in Annex 5, a total of 23 correctly worded items were presented for rating by school teachers. The Cronbach's Alpha reliability coefficient for the scale prepared to measure knowledge has resulted as 0.532 which, according to Cohen, Manion and Morion (2018), is low reliability. The Item-Total Statistics table suggests maintaining the majority of the item prepared except items 2.9 and 2.12, which these items were revised during the actual data collection.

Construct 2: Self-efficacy

A total of nine items were prepared to assess the self-efficacy of school teachers with regard to teaching SVI in regular schools along with their sighted peers. As indicated in Annex 5, the analysis of the Cronbach's Alpha Coefficient has resulted in 0.794 which is considered as reliable

(Cohen, Manion and Morion, 2018). All the nine items were kept for the actual data collection, as removing any of the items has not resulted in improved Alpha coefficient.

Construct 3: Attitude

A total of 16 items were prepared to explore the attitudes of school teachers towards inclusion and support of SVI in regular schools. Negatively worded items like question 4.1, 4.2, 4.7 and 4.8 were recoded as appropriate before undertaking the reliability analysis. As indicated in Annex 5, the scale has a Cronbach's Alpha coefficient value of 0.815 which is considered as highly reliable (Cohen, Manion and Morion, 2018). Removing items from the scale won't bring significant improvement in the alpha coefficient, therefore all the items were used for the actual data collection after making slight modifications to improve item clarity.

Construct 4: Practice

School teachers' practice of inclusive instruction strategies that can be applied in teaching SVI in regular schools was assessed using 31 items. The Cronbach's Alpha coefficient for the scale was 0.877 which is considered as highly reliable (Cohen, Manion and Morion, 2018). Item no 5.7, 5.10, 5.24 and 5.26 were removed from the scale as the 'Corrected Item-Total Correlation' value was low; refer to Annex 5 for details. The new Cronbach's Alpha resulted in .888 value for the remaining 27 items.

Summary

The psychometric properties of the items suggest keeping the majority of the items for the actual study as they are internally consistent in their respective constructs. Two items from knowledge and four items from practice constructs were removed to improve the internal consistency of the data collection tool. Question 5.7 on the practice section was qualified in the Amharic version, as the translation was found out to be somewhat vague and open for interpretation. The data collection tools were edited based on the findings of the pre-piloting and the pilot study, which items were

edited as well as deleted as appropriate. The final data collection tools for the actual study is presented in Annex 6, refer for details.

3.9 Lessons from the Pilot Study

Significant insights were drawn from the pilot study, which were subsequently taken into account throughout the execution of the main study. The pilot study helped the researcher to successfully pre-test the quantitative data collection instruments. Subsequently, the analysis of the psychometric properties facilitated the refinement and elimination of some items. The preliminary investigation has additionally contributed to the assessment of the study's feasibility through the testing of the data collection tools, methodology, and field activities. The following points some of the lessons drawn from the pilot study which were then applied during the main study:

- **Instrument validation:** Preparation of the data collection instruments have gone through rigorous procedures of content validity index and pilot testing. Experts' judgment was used to validate the data collection instruments, and irrelevant items were deleted accordingly. This procedure has shown the importance of undertaking instrument validation procedure and its contribution in preparing reliable data collection tools.
- **Improving list of schools:** The researcher has encountered a challenge to get access to list of regular primary and secondary schools that enrolled *SVI*. The list of schools accessed from the city administration education bureau was not updated, which those schools indicated to have students with visual impairment were sometimes found out to have none at all. Taking lesson from the pilot study, the researcher approached education offices at sub-city level to get up to date list of schools that enrolled *SVI*.
- **Recoding negatively worded items to calculate internal consistency:** The pilot study has given a chance to work on recoding negatively worded items before calculating the

Cronbach's Alpha. This was also conducted during the main study.

- The pilot study has also paved the way as to how quantitative data will be analyzed and presented during the main study. The need to check basic assumptions of tests like hierarchical multiple regressions was also noted as an important lesson from the pilot study.
- The explanatory sequential research design was employed in the pilot study, confirming its suitability for the research context and topic of study. The main study applied similar research design, which the qualitative study was conducted after finalizing the quantitative part.

In summary, the lessons and the major findings of the pilot study has encouraged the researcher to conduct the main study.

CHAPTER FOUR

RESULTS

This study was designed to investigate teachers' practices of inclusive instruction strategies in teaching SVI in regular schools of Addis Ababa and their professional competencies affecting their practices. The following sections present findings of the quantitative and qualitative study.

Part I: Quantitative Findings

4.1. Demographic Characteristics of Respondents

Data was gathered from primary and secondary school teachers, SVI, and SNE specialists at the sampled schools. Observations were carried out in the visited schools, specifically focusing on the IERC. The subsequent tables provide a comprehensive overview of the study participants and the observations that were carried out.

Table 3: Demographic Characteristics of School Teachers, survey questionnaire

Demographic characteristics	Options	n	%
Gender	Male	195	46.3
	Female	213	50.6
	Missing	13	3.1
	Total	421	100.0
Current educational qualification	Certificate	7	1.7
	Diploma	78	18.5
	BSc/BA/B.Ed.	263	62.5
	MA/MSc/Med	73	17.3
	Total	421	100.0
Sub-City of schools where teachers teach	Addis Ketema	15	3.6
	Akaki Kality	68	16.2
	Arada	31	7.4
	Gullele	69	16.4
	Kirkos	9	2.1
	Kolfe Keranio	83	19.7
	Lideta	75	17.8
	Yeka	71	16.9
	Total	421	100.0
School level where teachers teach	Primary	246	58.4
	Secondary	175	41.6

	Total	421	100.0
Age	Below 25	20	4.8
	25-30	130	30.9
	31-35	139	33.0
	36-40	73	17.3
	41 and above	55	13.1
	Missing	4	1.0
	Total	421	100.0
Have you training on SNE/IE as part of pre- or in-service programmes?	No training received	81	19.2
	Training received at pre-service level	98	23.3
	Training received at in-service level	43	10.2
	Training received at pre-and in-service level	199	47.3
	Total	421	100.0
Teaching Experience in years	5 Years and less	51	12.1
	More than 5 Years	364	86.5
	Missing	6	1.4
	Total	421	100.0
Mean=12.02, std. deviation= 6.94, minimum=1, maximum=38			

As evident from Table 3 above, a total of 421 teachers took part in the study from both primary and secondary schools of Addis Ababa. The list of schools is presented in Annex 1, refer for details. It appears from table 3 that half of the teachers approached for data collection were female, while male teachers constituted 46.3% of the sample. Regarding their educational background, 62.5% of the teachers in the sample held first degree, while 17.3% held second degree. A total of 18.5% of the teachers possessed a diploma, while 1.7% held qualifications at the certificate level. Relatively high proportion of teachers were drawn from school located in Akaki Kality, Gullele, Kolfe Keranio, Lideta and Yeka sub-cities, and the remaining 5.7% of teachers were drawn from schools situated in Addis Ketema and Kirkos sub-cities. In terms of age, a majority of the teachers (69.3%) were under the age of 35, while 30.4% of teachers were above the age of 35. Approximately 20% of teachers lack any form of training in Special Needs Education (SNE) or Inclusive Education (IE), whereas 23.3% have had SNE/IE training during their pre-service training, and 10.2% have

received training at the in-service level. A considerable proportion of teachers (47.3%) received training at pre- as well as in-service levels. Graham et al. (2020) proposed a classification system for teachers based on their experience, which includes three categories: beginning (0-3 years), transitioning (4-5 years), and experienced (more than 5 years). Due to the somewhat lower frequencies seen in the distribution of teachers' experience data for the present study, the first two categories were merged, resulting in the formation of two groups: '5 years and less' and 'more than 5 years'. The vast majority of teachers (86.5%) had over 5 years of teaching experience, with an average of 12 years. The minimum and maximum teaching experience range from 1 to 38 years.

Table 4: Demographic Characteristics of Students with Visual Impairment, survey questionnaire

Characteristics	Options	Frequency	Percentage
Gender	Boy	49	49.0
	Girl	51	51.0
	Total	100	100.0
Grade Level	Grade 5	5	5.0
	Grade 6	9	9.0
	Grade 7	16	16.0
	Grade 8	19	19.0
	Grade 9	18	18.0
	Grade 10	14	14.0
	Grade 11	11	11.0
	Grade 12	8	8.0
	Total	100	100.0
Primary= 49 (49%) and Secondary= 51 (51%)			
Age	7-14	26	26.0
	15-18	57	57.0
	Greater than 18	17	17.0
	Total	100	100.0
Vision status	Low vision	83	83.0
	Blind	17	17.0
	Total	100	100.0

The table above presents a comprehensive summary of the students who participated in the study.

Almost equal proportion of girls and boys participated in the study through responding to survey

questionnaire administered by trained interviewers. The students were drawn from grade 5 to 12 levels which 51% of them were from secondary schools while the remaining 49% were from primary schools. Regarding their age, 26% of them were under the age of 14, while 57% were within the age range of 15 to 18. Out of the total of 100 students, 17% of them were above the official age range of primary and secondary school level. Students with low vision constituted 83% of the sample while 17% of the sampled students were with blindness.

Observations

The sampled 34 regular schools were subjected to observations using checklist prepared, as outlined in Annex 1. However, it was determined that observation conducted at four schools was found out to be incomplete and therefore not considered for analysis purposes. Among the 34 schools visited, a total of 17 schools possess an Inclusive Education Resource Centre (IERC). A structured checklist was utilised to examine the availability of resources and support services provided to SVI in the regular schools.

4.2 Knowledge, Attitude, Self-efficacy and Practice of School Teachers

This study was designed to investigate factors affecting teachers' practice of inclusive instruction strategies in teaching students with visual impairment in regular schools of Addis Ababa. The following table presents the descriptive statistics, reliability and inter-correlation among the variables under the study. The table shows that practice is positively correlated with self-efficacy ($r = 0.542$, $p < 0.01$) and attitude ($r = 0.284$, $p < 0.01$), but the correlation with knowledge is not statistically significant ($r = 0.077$, $p > 0.05$).

Table 5: Descriptive statistics, reliability and Correlations for Study Variables (N=421)

Variable	Mean	SD	1	2	3	4
1. Knowledge	16.44	2.01	-			
2. Self-efficacy	27.02	9.12	.106*	-		
3. Attitude	62.87	10.14	.178**	.317**	-	
4. Practice	75.43	23.35	.077	.542**	.284**	-
No of Items			18	9	16	28
Reliability (Alpha)			0.697	0.916	0.864	0.955

* $p < .05$. ** $p < .01$.

The school teachers correctly responded to the items in the knowledge scale, yielding an above average score of 16.44 out of a maximum of 18, with a minimum value of 8 and a maximum value of 18. This implies that school teachers have the understanding on the inclusive instruction strategies that could be used to teach SVI in regular schools. Regarding self-efficacy, the current average score of 27.02 out of a possible score of 45 (9 items using a five-point scale) indicates that teachers have an average perceived capability to teach SVI. In terms of attitudes, the average score of 62.87 out of a maximum score of 80 indicates that school teachers have above average attitude towards the inclusion of SVI in regular schools. The average score on the 28 items used to assess teachers' practice of inclusive instruction strategies is 75.431, out of the possible 112, suggesting that the various strategies were moderately applied at the schools visited.

The next sub-sections present details of data for each of the constructs and the effect of the independent variables on the dependent variable.

4.2.1 Knowledge

This section provides an overview of the responses shared by primary and secondary school teachers regarding their understanding of inclusive instruction strategies that could be used to teach SVI in regular schools.

Table 6: Responses of School teachers to items measuring knowledge

No	Question (Knowledge)	n (%)	
		False	True
1.	There is a need to modify textbook contents considering the unique needs of children with visual impairment	37 (8.8)	384 (91.2)
2.	Teachers need to consider the unique needs of children with visual impairment when preparing lesson plans	32 (7.6)	389 (92.4)
3.	Teachers shall prepare alternative homework/classwork for children with visual impairment as appropriate	26 (6.2)	395 (93.8)
4.	Teaching textbook contents for children with visual impairment require additional preparation of teachers	29 (6.9)	392 (93.1)
5.	Some textbook topics may not be as simple for visually impaired students to understand as they are for sighted students, so they need to be replaced by other similar ones that are easy to understand	48 (11.4)	373 (88.6)
6.	The teacher has to adapt his/her teaching style when there is a student with visual impairment in class	24 (5.7)	397 (94.3)
7.	Individual Education Plan can help to assist children with visual impairment in their education	50 (11.9)	371 (88.1)
8.	SVI have unique needs to attend classrooms due to their visual impairment	67 (15.9)	354 (84.1)
9.	Teaching SVI together with sighted peers helps to support each other	32 (7.6)	389 (92.4)
10.	Teaching children with visual impairment requires collaboration with special needs experts	18 (4.3)	403 (95.7)
11.	SVI require additional support from their teachers while learning in inclusive classrooms	19 (4.5)	402 (95.5)
12.	SVI require additional time to complete homework/classwork	68 (16.2)	353 (83.8)
13.	Instructional materials need to be contextualized to the needs of SVI	9 (2.1)	412 (97.9)
14.	Tactile and concrete materials need to be used to teach SVI	21 (5.0)	400 (95.0)
15.	Children with visual impairment should get textbooks in Braille	21 (5.0)	400 (95.0)
16.	Teachers shall prepare alternative tests or test items for children with visual impairment as appropriate	53 (12.6)	368 (87.4)
17.	SVI require additional time to complete examinations	74 (17.6)	347 (82.4)

No	Question (Knowledge)	n (%)	
		False	True
18.	Children with visual impairment can submit their homework and classwork in various ways like through voice recording and oral presentations	28 (6.7)	393 (93.3)
Mean=16.44, Minimum=8, Maximum=18			

As indicated in Table 6, the great majority of the school teachers have given the correct answer to most of the questions posed to assess their understanding. Over 98% of teachers indicated that ‘children with low vision have to get enlarged prints copy’, ‘Inclusion is socially advantageous for SVI’, and ‘Teaching SVI requires collaboration of school teachers with special needs experts’. They have also agreed to statements which indicate the need for adapting teaching styles for students with visual impairment attending in regular schools, planning for alternative assignments and examinations for such children, talking while teaching in classrooms, etc.

The table also indicates that a significant number of school teachers have a strong comprehension of the various strategies that can be applied to teach SVI in regular schools. A significant proportion of teachers (91.2%) expressed their understanding on the necessity of modifying textbook content to accommodate the distinct requirements of SVI. The table additionally illustrates that a majority of teachers, exceeding 90%, possess a comprehension of basic concepts such as the necessity to take into account the needs of students with visual impairments when preparing lessons, the importance of preparing alternative homework/classwork, the adaptation of teaching methods, the provision of additional support, the contextualization of instructional materials, and the utilisation of tactile and concrete materials. The data shown in the table also indicates that some of the teachers demonstrate a lack of awareness of the need for additional time, for SVI, to finish tests (17.6%) and homework/classwork (16.2%). Close to 16% of teachers also replied ‘False’ to the item ‘SVI have unique needs to attend classrooms due to their visual

impairment’, indicating a lack of awareness regarding the special needs of SVI in attending classrooms. Regarding the item detailing on teachers role to prepare alternative tests or test items for such students was rated as ‘false’ by 12.6% of teachers.

Comparison of Knowledge against Teachers’ characteristics

The following table presents comparison tests of teachers’ knowledge regarding inclusive instruction strategies against their demographic characteristics. T-test and one way ANOVA analysis were undertaken as appropriate. Leven’s test for equality of variance is assumed.

Table 7: Teachers’ Knowledge against their demographic information

Variable	Options	N	Mean	Std. Deviation	F or t value & df	Sig
Gender	Male	195	16.23	2.14	t= -2.208 df=406	0.028
	Female	213	16.67	1.87		
School level	Primary	246	16.50	1.95	t= 0.800 df=419	0.424
	Secondary	175	16.34	2.10		
Level of education	Certificate and Diploma	85	16.62	2.07	F _(2,418) = 0.747	0.474
	BSc/BA/B.Ed.	263	16.34	2.00		
	MA/MSc/Med	73	16.56	1.98		
Years of Teaching Experience	5 Years and less	51	16.29	2.26	t= -0.480 df=413	0.631
	More than 5 Years	364	16.43	1.99		

It appears from table 7 that there is no statistically significant difference with regard to teachers’ knowledge of inclusive instruction strategies when grouped against their school level (t= 0.800, df=419, p=0.424), level of education (F_(2,418)=0.747, P=0.474), and years of experience (t= -0.480, df=413, p=0.631). This indicates that there is no difference in understanding of the various inclusive instruction strategies that could be applied to teach SVI between primary and secondary school teachers and among the various teachers’ educational level and teaching experience categories.

4.2.2 Self-efficacy

Table 8 below presents detailed responses of teachers' self-efficacy to teach SVI in regular schools.

Table 8: Responses of School teachers to items measuring Self-efficacy

No	Question (Self-efficacy)	Frequency (%)				
		1	2	3	4	5
1.	I have the capability to effectively use different teaching approaches to teach students with visual impairment in regular classrooms	42 (10.0)	88 (20.9)	84 (20.0)	141 (33.5)	66 (15.7)
2.	I am able to prepare and implement individual education plan for SVI	53 (12.6)	90 (21.4)	96 (22.8)	126 (29.9)	56 (13.3)
3.	I have the capability to teach textbook contents by considering SVI	45 (10.7)	93 (22.1)	90 (21.4)	118 (28.0)	75 (17.8)
4.	I am capable of reading/writing Braille	215 (51.1)	70 (16.6)	47 (11.2)	44 (10.5)	45 (10.7)
5.	I have the capability to support SVI mainstreamed in regular classrooms	69 (16.4)	80 (19.0)	64 (15.2)	138 (32.8)	70 (16.6)
6.	I have the capability to prepare resources/teaching aids that can serve the interest of SVI	98 (23.3)	84 (20.0)	94 (22.3)	100 (23.8)	45 (10.7)
7.	I have the capability to prepare examination suitable for SVI	77 (18.3)	81 (19.2)	58 (13.8)	141 (33.5)	64 (15.2)
8.	I have the capability to discipline students with VI in classrooms	32 (7.6)	75 (17.8)	62 (14.7)	149 (35.4)	103 (24.5)
9.	I have the capability of using assistive technology for SVI	92 (21.9)	93 (22.1)	83 (19.7)	99 (23.5)	54 (12.8)
	Overall	Mean= 27.02, Minimum= 9, Maximum= 45				

1= Strongly Disagree 2= Disagree 3= Uncertain 4=Agree 5=Strongly Agree

The data presented in the table reveals that more than half of the teachers (59.9%) expressed their capability to discipline SVI in regular schools, while more than a quarter of teachers reported they lack this particular quality. The table also indicate that close to half of the teachers reported they possess the capability to support SVI mainstreamed in regular schools, whereas 35.4% of teachers indicated they lack such competence. Regarding the capability to utilize assistive technologies for teaching SVI, 44% of the teachers indicated they lack this particular ability. It is also evident from the table that more than 40% of teachers reported they lack the ability of preparing instructional materials and resources that can serve the interest of SVI enrolled in regular schools. Gap in

perceived ability with respect to preparation and implementation of IEP was another area reported by 34.0% of teachers. More than 30% of the school teachers also reported their capability gap to teach such children in regular classrooms along with their sighted peers and also with regard to adapting textbook contents to the needs of such children (32.8%).

Comparison of Self-efficacy against Teachers' characteristics

The following table presents comparison tests of teachers' self-efficacy against their demographic characteristics using t-test and one way ANOVA. Leven's test for equality of variance is assumed.

Table 9: Teachers' Self-efficacy against their demographic information

Variable	Options	N	Mean	Std. Deviation	F or t value & df	Sig
Gender	Male	195	26.7128	9.39234	t= 1.58 df=423	0.576
	Female	213	27.2207	8.92702		
School level	Primary	246	27.1789	9.17408	t= 0.401 df=419	0.689
	Secondary	175	26.8171	9.06748		
Level of education	Certificate and Diploma	85	26.2706	8.59594	F _(2,418) = 0.433	0.649
	BSc/BA/B.Ed.	263	27.3156	9.39319		
	MA/MSc/Med	73	26.8767	8.77488		
Years of Experience	5 Years and less	51	27.5490	9.89407	t= 0.512 df=413	0.609
	More than 5 Years	364	26.8516	8.99801		
Training on SNE/IE	No training received	81	23.2222	8.45725	F _(3,417) = 8.991	<0.01
	Training received at pre-service level	98	26.2347	9.01980		
	Training received at in-service level	43	26.3488	8.93864		
	Training received at pre-and in-service level	199	29.1256	8.97917		

According to the findings presented in Table 9, there is no statistically significant difference in perceived self-efficacy between male and female teachers (t=1.58, df=419, p=0.576), as well as

among teachers selected from primary and secondary schools ($t=0.401$, $df=419$, $p=0.689$). The analysis revealed that there was no statistically significant difference observed among the levels of teachers' educational levels ($F(2,418)=0.433$, $P=0.649$) and years of experience ($t=0.512$, $df=413$, $p=0.609$). On the contrary, a statistically significant difference in teachers' self-efficacy is observed based on their level of exposure to SNE/IE trainings. Teachers who received courses or training on SNE/IE at both pre- and in-service levels reported higher self-efficacy to teach SVI compared to those who received training at either level, as well as teachers who had no exposure to the issue ($F(3,417)=8.99$, $p< 0.01$). The details of the multiple comparisons conducted using Tukey approach is annexed in this document, refer Annex 7.

4.2.3 Attitudes

The details of responses regarding teachers' attitudes towards inclusion of SVI in regular schools is shown in Table 10 below.

Table 10: Responses of School Teachers to Items Measuring Attitudes

No	Question (Attitude)	Frequency (%)				
		1	2	3	4	5
1.	Assisting SVI in regular class takes time of other students (R)	63 (15.0)	116 (27.6)	54 (12.8)	110 (26.1)	78 (18.5)
2.	Visually impaired students should learn separately in special class/ in a separate school (R)	114 (27.1)	84 (20.0)	50 (11.9)	94 (22.3)	79 (18.8)
3.	The inclusion of students with disabilities, like with visual impairment, in regular classroom is beneficial to other students.	48 (11.4)	62 (14.7)	87 (20.7)	142 (33.7)	82 (19.5)
4.	I would welcome the inclusion of visually impaired students in my class.	37 (8.8)	33 (7.8)	63 (15.0)	137 (32.5)	151 (35.9)
5.	I support inclusive teaching as a successful education system to address needs of learners with visual impairment.	24 (5.7)	20 (4.8)	51 (12.1)	159 (37.8)	167 (39.7)
6.	Teachers have responsibility to support children with visual impairment in regular classrooms	9 (2.1)	9 (2.1)	24 (5.7)	144 (34.2)	235 (55.8)
7.	I am ready to work in collaboration with special needs experts to teach children with visual impairment	15 (3.6)	12 (2.9)	38 (9.0)	135 (32.1)	221 (52.5)
8.	I am willing to adjust my teaching approach when there are SVI in my class	10 (2.4)	13 (3.1)	44 (10.5)	148 (35.2)	206 (48.9)
9.	I am willing to adjust teaching aids and materials considering the unique needs of SVI	10 (2.4)	16 (3.8)	37 (8.8)	163 (38.7)	195 (46.3)

No	Question (Attitude)	Frequency (%)				
		1	2	3	4	5
10.	Learning assessments should put SVI in to considerations	8 (1.9)	17 (4.0)	22 (5.2)	145 (34.4)	229 (54.4)
11.	I have the courage to modify textbook contents so that they serve SVI	20 (4.8)	24 (5.7)	43 (10.2)	174 (41.3)	160 (38.0)
12.	I believe that students with visual impairment can achieve better in examinations	28 (6.7)	17 (4.0)	33 (7.8)	161 (38.2)	182 (43.2)
13.	I believe that SVI can make active class participations	11 (2.6)	20 (4.8)	40 (9.5)	168 (39.9)	182 (43.2)
14.	I believe that SVI can solve challenging tasks by their own	13 (3.1)	42 (10.0)	46 (10.9)	167 (39.7)	153 (36.3)
15.	I feel that including SVI in regular classrooms has a social benefit	12 (2.9)	15 (3.6)	30 (7.1)	178 (42.3)	186 (44.2)
16.	The teaching learning process won't be disturbed if SVI are allowed to submit their homework and classwork in various ways like through voice recording and oral presentations	30 (7.1)	27 (6.4)	53 (12.6)	165 (39.2)	146 (34.7)
		Mean=62.87, Minimum=22, Maximum=80				

Approximately 40% of teachers believe that assisting SVI in mainstream schools takes time of other students, whereas 44.6% of teachers have a different perspective. Over 45% of teachers expressed their concurrence with the approach that SVI should learn separately in special school/classroom, whilst 41.4% supported their inclusion in regular schools. The present study additionally revealed that 26.1% of teachers hold the belief that the integration of children with visual impairments into regular schools does not yield advantages for their peers, whereas 20.7% of teachers were indifferent to the issue. A majority of the teachers (53.2%) expressed their agreement in this regard. Regarding teachers' attitude toward welcoming the inclusion of SVI in their classrooms, the majority of them (68.4%) have favourable attitude while 15.0% were indifferent to respond and the remaining 16.6% were seen to possess an unfavourable attitude. Furthermore, over 80% of teachers expressed agreement regarding their responsibility to support SVI, their willingness to collaborate with SNE specialists, their willingness to adjust teaching approaches and teaching aids, and their agreement that integrating SVI into mainstream schools yields social advantages.

To summarise, the average score for teachers' attitude is 62.87 out of a maximum score of 80. The minimum and maximum scores are 22 and 80, respectively. This indicates that teachers possess a favourable attitude towards inclusion of SVI into regular schools. The ratings on some of the items on the attitude scale suggest prevalent challenges that need attention of stakeholders.

Comparison of Attitudes against Teachers' characteristics

The following table presents comparison tests of teachers' attitudes towards inclusion of SVI in regular schools against their demographic characteristics conducted using t-test and one way ANOVA. Leven's test for equality of variance is assumed.

Table 11: Teachers' Attitude against their demographic information

Variable	Options	N	Mean	Std. Deviation	F or t value & df	Sig
Gender	Male	195	62.5949	8.91223	t= -1.031 df=406	0.303
	Female	213	63.5822	10.30703		
School level	Primary	246	63.6463	10.23683	t= 1.852 df=419	0.065
	Secondary	175	61.7943	9.93155		
Level of education	Certificate and Diploma	85	63.2353	10.06603	F _(2,418) = 0.700	0.497
	BSc/BA/B.Ed.	263	63.1141	9.72181		
	MA/MSc/Med	73	61.6027	11.64849		
Years of Experience	5 Years and less	51	63.8627	9.47633	t= 0.780 df=413	0.436
	More than 5 Years	364	62.6786	10.24889		
Training on SNE/IE	No training received	81	59.3086	10.96545	F _(3,417) = 5.495	0.001
	Training received at pre-service level	98	62.0714	8.87978		
	Training received at in-service level	43	62.2791	11.38153		
	Training received at pre-and in-service level	199	64.6080	10.13032		

Table 11 provides statistical test result of teachers' attitudes towards inclusion of SVI in regular schools against their demographic characteristics. The table shows that no statistically significant

difference has resulted among the various groups of teachers with respect to their gender ($t=-1.031$, $df=406$, $p=0.303$), school level ($t=1.852$, $df=419$, $p=0.065$), level of education ($F_{(2,418)}=0.700$, $P=0.497$), and years of experience ($t=0.780$, $df=413$, $p=0.436$). Conversely, a statistically significant difference in the attitudes of teachers is found among the levels of exposure to SNE/IE trainings. The results indicate that teachers who took courses or training on SNE/IE at both the pre- and in-service levels exhibited a greater attitude in comparison to those who received training at either level, as well as those who had no prior exposure to the topic ($F(3,417)=5.495$, $p=0.01$). The specific information regarding the multiple comparisons performed using the Tukey approach can be found in this document, in Annex 7.

4.2.4 Practice

The assessment of teachers' implementation of inclusive instruction strategies for teaching SVI was conducted through a series of questions. Teachers were asked to rate the extent of their practice using five options: never, rarely, sometimes, very often, and always. It is envisaged that the inclusive instruction strategies described in Table 12 will be implemented extensively in schools/classrooms where there are SVI.

Table 12: Responses of School teachers to items measuring Practices

No	Question (Practice)	Frequency (%)				
		0	1	2	3	4
1.	I consider the presence of visually impaired students in class and adjust my teaching approach accordingly	41 (9.7)	39 (9.3)	84 (20.0)	133 (31.6)	124 (29.5)
2.	I speak clearly and face the class when I speak so that SVI can listen clearly	11 (2.6)	16 (3.8)	41 (9.7)	121 (28.7)	229 (54.4)
3.	Appropriate use of blackboard for children with low vision (clean, no shadow, no reflection, written neatly)	6 (1.4)	13 (3.1)	38 (9.0)	122 (29.0)	237 (56.3)
4.	I stand where glare is minimized so that SVI won't be distracted	10 (2.4)	17 (4.0)	55 (13.1)	148 (35.2)	183 (43.5)

No	Question (Practice)	Frequency (%)				
		0	1	2	3	4
5.	I modify lesson that are not aligned to the needs of SVI	64 (15.2)	49 (11.6)	85 (20.2)	119 (28.3)	98 (23.3)
6.	I make additional preparation on some textbook contents so as to teach SVI	53 (12.6)	53 (12.6)	77 (18.3)	119 (28.3)	114 (27.1)
7.	Place SVI on the first bench in classrooms	3 (0.7)	10 (2.4)	36 (8.6)	110 (26.1)	260 (61.8)
8.	Simultaneously say and write on black- or whiteboard	20 (4.8)	20 (4.8)	50 (11.9)	119 (28.3)	207 (49.2)
9.	I closely follow-up the participation of visually impaired students in class.	12 (2.9)	22 (5.2)	55 (13.1)	138 (32.80)	181 (43.0)
10.	I make sure that classrooms are convenient for SVI	35 (8.3)	39 (9.3)	60 (14.3)	120 (28.5)	159 (37.8)
11.	Minimizing copying from black board, for SVI	65 (15.4)	56 (13.3)	56 (13.3)	116 (27.6)	122 (29.0)
12.	Address SVI by their names to ask question or give instruction	21 (5.0)	20 (4.8)	45 (10.7)	115 (27.3)	220 (52.3)
13.	I adapt teaching aids and material to accommodate needs of SVI.	43 (10.2)	57 (13.5)	78 (18.5)	117 (27.8)	123 (29.2)
14.	I use different concrete examples to facilitate the way SVI understand concepts.	17 (4.0)	28 (6.7)	62 (14.7)	128 (30.4)	184 (43.7)
15.	Administering tests using Braille	144 (34.2)	36 (8.6)	51 (12.1)	75 (17.8)	103 (24.5)
16.	Replacing some exam questions to make it appropriate for SVI	46 (10.9)	33 (7.8)	64 (15.2)	122 (29.0)	152 (36.1)
17.	I allow SVI to submit their homework and classwork in various ways like through voice recording and oral presentations	94 (22.3)	40 (9.5)	62 (14.7)	99 (23.5)	125 (29.7)
18.	I prepare alternative assignments/ activities for SVI considering their unique needs	51 (12.1)	36 (8.6)	93 (22.1)	125 (29.7)	111 (26.4)
19.	Providing additional time for SVI to complete assignments	37 (8.8)	25 (5.9)	67 (15.9)	141 (33.5)	149 (35.4)
20.	Providing additional time for SVI to complete examinations	18 (4.3)	26 (6.2)	61 (14.5)	130 (30.9)	182 (43.2)
21.	I consider the needs of visually impaired students in my class when preparing a lesson plan	65 (15.4)	41 (9.7)	85 (20.2)	127 (30.2)	103 (24.5)
22.	I have prepared and implemented Individual Education Plan to support SVI	102 (24.2)	52 (12.4)	77 (18.3)	114 (27.1)	76 (18.1)
23.	Providing additional explanations individually for SVI on some difficult issues, in classrooms	23 (5.5)	25 (5.9)	58 (13.8)	137 (32.5)	173 (41.1)
24.	Providing additional explanations individually for SVI on some difficult issues, outside of classrooms	30 (7.1)	47 (11.2)	71 (16.9)	126 (29.9)	139 (33.0)

No	Question (Practice)	Frequency (%)				
		0	1	2	3	4
25.	I pair SVI and sighted peers for cooperative learning and supporting each other.	13 (3.1)	28 (6.7)	46 (10.9)	145 (34.4)	187 (44.4)
26.	I use tactile and concrete materials to teach SVI	56 (13.3)	58 (13.8)	82 (19.5)	104 (24.7)	118 (28.0)
27.	I use audio equipment to teach SVI	109 (25.9)	39 (9.3)	63 (15.0)	94 (22.3)	109 (25.9)
28.	To support education of SVI, I use resources/ teaching aids found at the school inclusive education resource centre	86 (20.4)	50 (11.9)	63 (15.0)	95 (22.6)	126 (29.9)
		Mean=75.43, Minimum=3, Maximum=112				

0=Never, 1=Rarely, 2=Sometimes, 3=Very often, 4=Always

Over 50% of the teachers reported ‘always’ implementing teaching strategies and support activities, such as speaking clearly while facing the class to facilitate listening for students with visual impairments, using blackboards appropriately to accommodate the needs of students with low vision, placing student visual impairments on the first bench in classrooms, and addressing these students by their names when asking questions or giving instructions. For instance, 54.4% of teachers indicated they ‘always’ speak clearly and face the class. Additionally, 56.3% of teachers indicated that they ‘always’ use blackboard appropriately, ensuring it is clean, free from shadows and reflections, and written neatly, taking into account the presence of children with low vision in the classroom. More than 60% of teachers also indicates they ‘always’ put SVI on the first bench in classrooms.

Inclusive instruction strategies that were ‘always’ practiced by a minority proportion of teachers encompasses the following: modifying lessons to adapt to the needs of SVI (23.3%), taking into account the needs of SVI during lesson planning (24.5%), administering tests using braille (24.5%), utilising audio equipment (25.9%), preparing alternative assignments/ activities for SVI considering their unique needs (26.4%), using tactile and concrete materials (28.0%), and adapting teaching aids and materials to accommodate needs of SVI (29.2%). A significant proportion of

teachers were found to have ‘never’ implemented certain strategies. These strategies include the administration of tests using braille (34.2%), the use of audio equipment for teaching (25.9%), the implementation of IEPs (24.2%), allowing SVI to submit their homework and classwork through voice recording and oral presentations (22.3%), and the utilisation of resources and teaching aids available at the school (20.4%). It is apparent from the table that very few teachers were fully considerate about the needs of SVI on examinations and assignments. For instance, 36.1% of teachers indicated they ‘always’ replace exam questions for students with visual impairment as appropriate, while 7.8% as indicated ‘rarely’ and 10.9% ‘never’ practicing it. It is evident from the table that, SVI were not receiving uniform additional time from their teachers to complete various tasks.

Comparison of Practice against Teachers’ characteristics

The following table presents results of the comparison tests regarding teachers’ practice of inclusive instruction strategies used to teach SVI in regular schools against their demographic characteristics. The analysis was conducted using t-test and one way ANOVA which Leven’s test for equality of variance is assumed.

Table 13: Teachers' Practice against their demographic information

Variable	Options	N	Mean	Std. Deviation	F or t value & df	Sig
Gender	Male	195	76.3436	23.40081	t= 0.859 df=406	0.391
	Female	213	74.3474	23.49531		
School level	Primary	246	75.8008	22.55779	t= 0.381 df=419	0.703
	Secondary	175	74.9200	24.47857		
Level of education	Certificate and Diploma	85	76.0353	22.48462	F _(2,418) = 0.037	0.964
	BSc/BA/B.Ed.	263	75.3194	23.91661		
	MA/MSc/Med	73	75.1507	22.55775		
Years of Experience	5 Years and less	51	73.3529	27.18075	t= -0.596 df=413	0.552
	More than 5 Years	364	75.4368	22.81580		
Training on SNE/IE	No training received	81	67.4444	28.56090	F _(3,417) = 4.309	0.005
	Training received at pre-service level	98	77.5102	21.45446		
	Training received at in-service level	43	74.3023	21.38372		
	Training received at pre-and in-service level	199	77.9095	21.60392		

Table 13 shows that no statistically significant difference was observed in extent of teachers' practice of the various inclusive instruction strategies used to teach SVI among the various groups of teachers with regard to their gender ($t=0.859$, $df=406$, $p=0.391$), school level ($t=0.381$, $df=419$, $p=0.703$), level of education ($F_{(2,418)}=0.037$, $P=0.964$), and years of experience ($t=-0.596$, $df=413$, $p=0.552$). On the other hand, there is a statistically significant difference in teachers' practice of the inclusive instruction strategies when compared using the different levels of exposure to SNE/IE trainings. Teachers who completed courses or training on SNE/IE at both the pre- and in-service levels had superior performance in practice compared to those who received training at either level, as well as those who had no prior exposure to the topic ($F_{(3,417)}=4.309$, $p=0.005$). The specific information regarding the multiple comparisons performed using the Tukey approach can be found in this document, namely in Annex 7.

There are various factors affecting teachers’ practice of inclusive instruction strategies in schools/ classrooms. The following section present the details of availability of school supports for teachers.

4.2.5 School Support for Teachers

Teachers were requested to indicate the availability of support from their respective schools in the effort to improve the education of SVI. The following table presents the details of responses:

Table 14: Teachers’ response on the school support

Supports	Never	Yes, but not sufficient	Yes, in a sufficient manner
I have received support from special needs teacher to improve education of SVI	195 (46.3)	173 (41.1)	51 (12.1)
I have received training on Braille reading/writing	340 (80.8)	61 (14.5)	20 (4.8)
I receive support from the itinerant teachers to facilitate inclusion of SVI	280 (66.5)	116 (27.6)	23 (5.5)
The school avails resources required to teach SVI	248 (58.9)	128 (30.4)	45 (10.7)
The school avails Braille Textbooks	258 (61.3)	119 (28.3)	43 (10.2)
The school avails Braille Reference books	301 (71.5)	96 (22.8)	24 (5.7)
The school avails Audio Recorders	286 (67.9)	108 (25.7)	26 (6.2)
The school avails audio recorded materials	318 (75.5)	83 (19.7)	20 (4.8)

According to the data presented in Table 14, school teachers indicated that the level of support provided by special needs teachers and itinerant teachers was found to be either non-existent (46.3%) or inadequate (41.1%). A significant proportion of teachers (80.8%) also reported absence of basic braille reading/writing training at their respective schools. Teachers have also expressed difficulties in obtaining students' textbooks and reference materials in Braille format in an adequate manner. The school teachers also identified a shortage of audio recorders and audio recorded materials as a barrier in supporting the education of SVI. The first three items listed in the table

above have direct impact in improving teachers' capacity to support SVI in inclusive classrooms. However, the results revealed a prevalent gap in this aspect. Availing textbooks and reference books in braille, audio recorders and audio-recorded materials is also supporting teachers indirectly to enhance the quality of education for SVI in regular schools. Nevertheless, teachers' response indicates the presence of serious limitations in availing resources like braille textbooks and reference books, audio recorders and audio-recorded materials. The following section presents how teachers' knowledge, attitude and self-efficacy were affecting their practices of inclusive instruction strategies while teaching SVI in regular schools.

4.2.6 The Effect of Knowledge, Attitude and Self-efficacy on Practice

Preliminary analyses were undertaken in order to validate the pertinent underlying assumptions prior to conducting the hierarchical multiple regression test. As suggested by Tabachnick and Fidell (2013), assumptions of normality, linearity and homoscedasticity were checked and found satisfied. Examining at the correlations presented in Table 5 above, independent variables were not highly correlated with each other which multicollinearity was unlikely to be a problem (Tabachnick & Fidell, 2013). Moreover, the variance inflation factors (VIFs) were found out to be within the acceptable range, value under 10, as suggested by Ross and Willson (2017). Closely examining the descriptive statistics for the residuals, particularly the minimum and maximum values, it suggests that the data is normally distributed (Ross & Willson, 2017). The dependent variable, practice, has skewness and kurtosis values of -0.558 and -0.253, respectively. Cohen, Manion, and Morion (2017) state that these values are within an acceptable range of normal distribution of data.

A four stage hierarchical multiple regression test was conducted using Practice as the dependent variable and Knowledge, Self-efficacy and Attitudes as predictor variables after controlling for the

demographic profiles of teachers (gender, educational qualification, teaching experience and training on SNE/IE). The demographic variables were entered in the first stage of the hierarchical multiple regression to explore their effect on the teachers’ practice of inclusive instruction strategies specific to teach students with visual impairment in regular schools. Petrocelli (2003) indicated that demographic variables as good candidates for initial step entry in to the model. The subsequent stages introduced an additional predictor variable into the existing predictor variables of the prior models. Literatures were consulted to decide the order of entry of the remaining independent variables, which the Knowledge construct was introduced at stage 2, Self-efficacy at stage three and Attitude at stage four (Petrocelli, 2003; Savolainen et al., 2022). Table 15 presents the summary of the hierarchical multiple regression statistics.

Table 15: Summary of Hierarchical Regression Analysis for Variables predicting Practice

Table 15.1: Model Summary for the Multiple Hierarchical Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.201 ^a	.040	.031	23.09956	.040	4.167	4	397	.003
2	.209 ^b	.044	.032	23.08696	.003	1.433	1	396	.232
3	.547 ^c	.299	.288	19.79492	.255	143.668	1	395	.000
4	.560 ^d	.314	.302	19.60736	.015	8.593	1	394	.004

a. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification

b. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification, Knowledge

c. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification, Knowledge, Self-efficacy

d. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification, Knowledge, Self-efficacy, Attitude

The hierarchical multiple regression revealed that at stage one, the demographic characteristics of teachers (gender, educational qualification, teaching experience, and training on SNE/IE) contributed significantly to the regression model, ($F(4,397) = 4.167, p < .01$) and accounted for 4.0% of the variance in Practice. Introducing the Knowledge construct at stage two explained an

additional 0.3% of variation in Practice and this change in R^2 was not significant, $F\Delta (1,396) = 1.433, p > 0.05$. Adding Self-efficacy to the regression model explained an additional 25.5% of the variance in Practice and this change in R^2 was significant, $F\Delta (1,395) = 143.668, p < .001$. Finally, the addition of Attitude to the regression model explained an additional 1.5% of the variance in Practice and this change in R^2 square was significant ($\Delta F (1,394) = 8.593, p < .01$). Together all the independent variables accounted for 31.4% of the variance in Practice. The following table presents the ANOVA table of the regression test conducted.

Table 15.2: ANOVA Table for the Multiple Hierarchical Regression Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8893.277	4	2223.319	4.167	.003 ^b
	Residual	211835.164	397	533.590		
	Total	220728.440	401			
2	Regression	9657.317	5	1931.463	3.624	.003 ^c
	Residual	211071.123	396	533.008		
	Total	220728.440	401			
3	Regression	65952.097	6	10992.016	28.052	.000 ^d
	Residual	154776.343	395	391.839		
	Total	220728.440	401			
4	Regression	69255.691	7	9893.670	25.735	.000 ^e
	Residual	151472.749	394	384.449		
	Total	220728.440	401			

a. Dependent Variable: Practice

b. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification

c. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification, Knowledge

d. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification, Knowledge, Self-efficacy

e. Predictors: (Constant), Training on SNE/IE, Gender, Teaching Experience, Educational qualification, Knowledge, Self-efficacy, Attitude

As it can be seen in the model summary and ANOVA tables, all the four models were found to be significant ($p < 0.05$). The details of the coefficients of the regression test, level of significance, and collinearity statistics is presented in table 15.3 below.

Table 15.3: Coefficients for the Multiple Hierarchical Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	66.277	8.461		7.833	.000		
	Gender	-2.382	2.342	-.051	-1.017	.310	.970	1.031
	Educational qualification ^b	-.789	1.967	-.020	-.401	.688	.928	1.078
	Teaching Experience ^c	2.397	3.612	.033	.664	.507	.950	1.052
	Training on SNE/IE ^d	11.566	2.980	.191	3.881	.000	.995	1.005
2	(Constant)	55.578	12.303		4.518	.000		
	Gender	-2.691	2.355	-.057	-1.143	.254	.958	1.044
	Educational qualification	-.780	1.966	-.020	-.397	.692	.928	1.078
	Teaching Experience	2.388	3.610	.033	.661	.509	.950	1.052
	Training on SNE/IE	11.441	2.980	.189	3.839	.000	.994	1.006
	Knowledge	.685	.572	.059	1.197	.232	.986	1.014
3	(Constant)	33.766	10.704		3.154	.002		
	Gender	-3.363	2.020	-.072	-1.665	.097	.958	1.044
	Educational qualification	-1.450	1.687	-.038	-.859	.391	.927	1.079
	Teaching Experience	3.542	3.097	.049	1.144	.253	.949	1.053
	Training on SNE/IE	4.465	2.621	.074	1.704	.089	.945	1.058
	Knowledge	.180	.493	.016	.366	.714	.979	1.021
	Self-efficacy	1.338	.112	.521	11.986	.000	.941	1.063
4	(Constant)	20.207	11.568		1.747	.081		
	Gender	-3.489	2.001	-.074	-1.743	.082	.957	1.045
	Educational qualification	-1.373	1.671	-.036	-.822	.412	.927	1.079
	Teaching Experience	3.795	3.069	.053	1.237	.217	.949	1.054
	Training on SNE/IE	3.881	2.603	.064	1.491	.137	.939	1.064
	Knowledge	-.054	.494	-.005	-.109	.913	.953	1.049
	Self-efficacy	1.237	.116	.481	10.679	.000	.858	1.166
	Attitude	.320	.109	.132	2.931	.004	.860	1.163

In models 1 and 2, ‘training on SNE/IE’ was a significant predictor of practice while ‘self-efficacy’ was a significant predictor in model 3. Only self-efficacy ($\beta=.481$, $p<.001$) and attitude ($\beta=.132$, $p<.01$) were significant predictors of practice when all the independent variables were incorporated into stage four of the regression model, while knowledge ($p>0.05$) and demographic profiles of teachers ($p>0.05$) were not a significant predictor. From those variables that were able to predict practice, self-efficacy has a larger impact on practice than attitude, which uniquely explained 25.5% of the variance in practice.

4.3 IERC Observation on availability of Resources and School support

As indicated in the demographic information section, a total of 33 observations were complete in the effort to document availability of resources and support services for SVI at the regular schools observed. Table 16 below presents background information about the observations conducted.

Table 16: IERC Observation at schools

Item	Options	Frequency	Percentage
Availability of IERC	Available	17	56.7
	Not available	13	43.3
	Total	30	100.0
Is there SNE/IE specialist at the School?	Yes	29	96.7
	No	1	3.3
	Total	30	100.0
If yes to the above questions, how many SNE specialists are available at your school?	1.00	18	62.1
	2.00	6	20.7
	4.00	1	3.4
	6.00	2	6.9
	8.00	1	3.4
	10.00	1	3.4
Total	29	100.0	
Do SNE specialists teach as a regular classroom teacher?	Yes, they teach	14	48.3
	No, they don't teach	15	51.7
	Total	29	100.0

Among the 30 schools that were visited, a majority (56.7%) of them have IERC equipped with resources and SNE specialist. The great majority of the schools (96.7%) have SNE/IE specialist, which their number ranging from 1 to 10. The data clearly indicates that the majority of schools possess either one (62.1%) or two (20.7%) specialists in SNE/IE. Out of the 29 schools, in almost half of the schools (48.3%) the SNE/IE specialists were also serving as regular classroom teachers.

The following two tables present the results of the assessment of the availability of disability specific resources and support services available for SVI.

Table 17: Availability of Resources for SVI at schools

No	Resources	Frequency (%)	
		Available	Not-available
1.	Text books in Braille	19 (63.3)	11 (36.7)
2.	Reference books in Braille	9 (30.0)	21 (70.0)
3.	Slate and stylus	18 (60.0)	12 (40.0)
4.	Braille Paper	18 (60.0)	12 (40.0)
5.	Audio Recorders	16 (53.3)	14 (46.7)
6.	Audio recorded materials	3 (10.0)	27 (90.0)
7.	Talking calculator	5 (16.7)	25 (83.3)
8.	Computer with JAWS	6 (20.0)	24 (80.0)
9.	White canes	22 (73.3)	8 (26.7)
10.	Magnifying glasses	4 (13.3)	26 (86.7)
11.	Spectacles	11 (36.7)	19 (63.3)
12.	Tactile materials	13 (43.3)	17 (56.7)
13.	Large print materials	7 (23.3)	22 (73.3)
14.	Abacus	14 (46.7)	16 (53.3)
15.	Braille ruler	8 (26.7)	22 (73.3)
16.	Braille watch	6 (20.0)	24 (80.0)
17.	Talking watch	6 (20.0)	24 (80.0)
18.	Snellen chart	5 (16.7)	24 (80.0)
19.	Tactile Maps	3 (10.0)	26 (86.7)

20. Braille dictionary	5 (16.7)	25 (83.3)
21. Sound/Beep Ball	4 (13.3)	26 (86.7)
22. Head phone	5 (16.7)	25 (83.3)

School/IERC Observation and discussion with the respective school SNE/IE specialist was conducted on the availability of resources and support services aligned with the unique needs of SVI. Out of the 22 list of resources assessed on their availability, only limited ones were found out to be available in more than half of the schools observed which include textbooks in braille (63.3%), slate and stylus (60.0%), braille paper (60.0%), audio recorders (53.3%) and white canes (73.3%). These suggest that 46.7% of schools lack audio recorders and 40% of schools have no braille paper and slate and stylus. As clearly indicated in the table, most of the resources were not available at schools. For instance, 70% of schools have no reference books in braille format, 90% of schools lack audio recorded materials, 80% of schools have no computer with JAWS installed. It is also evident that schools lack resources that support education of students with low vision in particular, like magnifying glasses (86.7%), spectacles (63.3%) and large print materials (73.3%). Other resources assessed lacking at the majority of the schools include braille ruler, braille watch, Snellen chart, tactile maps, braille dictionary, beep ball and head phone. Overall, these results indicate prevalent gaps of basic resources to support education of students with visual impairment at regular schools. Turning now to the available support services and trainings for such children, the following table presents details of their status.

Table 18: Support Services Provided at School Level for SVI, IERC coordinators' response

No	Supports	Frequency (%)	
		Available	Not-available
1.	Orientation & Mobility Training	4 (13.3)	26 (86.7)
2.	Braille Training for Teachers	3 (10.0)	27 (90.0)
3.	Braille Training for Students	2 (6.7)	28 (93.3)
4.	Computer Training for SVI	1 (3.3)	29 (96.7)
5.	Abacus training for SVI	5 (16.7)	25 (83.3)
6.	Training on Independent living skills	2 (6.7)	28 (93.3)
7.	Extra time for examination	18 (60.0)	12 (40.0)
8.	Extra time for assignments	18 (60.0)	12 (40.0)
9.	Peer support from sighted students in classroom	24 (80.0)	6 (20.0)

It is apparent from the above table that very few supports were available for students with visual impairment at the schools visited for the study. Significant numbers of schools (86.7%) were not providing orientation and mobility training for SVI. Braille trainings for teachers and students, computer and abacus trainings for students was almost non-existent at the schools visited. School were also not engaged in providing training on independent living skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, menstruation, care and identification of clothes, care of nails) for SVI. It appears from the above table that relatively better supports were available with regard to allocating extra time to complete examinations and assignments. Support from sighted peers was also indicated to be relatively better at the schools visited.

4.4 Reflection of SVI on resource/support availability and teachers' Inclusive Practices

The SVI were requested to provide their perspective on the availability of resources and support services provided at their schools. Furthermore, SVI shared their opinion regarding teachers'

practice of disability specific inclusive instruction strategies in classrooms. The following subsequent sections present students’ response on the issues.

Resources

Table 19: Opinions of SVI regarding resource availability

No	Resources	Frequency (%)		
		Available in sufficient manner	Available, but not sufficient	Not Available at all
1.	Text books in Braille	5 (5.0)	33 (33.0)	62 (62.0)
2.	Reference books in Braille	4 (4.0)	24 (24.0)	72 (72.0)
3.	Slate and stylus	19 (19.0)	31 (31.0)	50 (50.0)
4.	Braille Paper	22 (22.0)	34 (34.0)	43 (43.0)
5.	Audio Recorders	17 (17.0)	13 (13.0)	70 (70.0)
6.	Audio recorded materials	8 (8.0)	16 (16.0)	76 (76.0)
7.	Talking calculator	3 (3.0)	19 (19.0)	78 (78.0)
8.	White canes	25 (25.0)	44 (44.0)	30 (30.0)
9.	Tactile materials	6 (6.0)	33 (33.0)	61 (61.0)
10.	Abacus	10 (10.0)	24 (24.0)	66 (66.0)
11.	Enlarged print copy for children with low vision	14 (14.0)	30 (30.0)	54 (54.0)
12.	Magnifying glasses for children with low vision	6 (6.0)	22 (22.0)	70 (70.0)
13.	Spectacles	10 (10.0)	47 (47.0)	41 (41.0)

The students' assessment of resource availability at their schools reveals that the majority of them concurred that most of the required resources were not available in sufficient manner. Specifically, 72% of students reported that reference books in braille were not accessible in schools. A majority of the students who participated in the survey mentioned the lack of resources such as braille textbooks, audio recorders, audio recorded materials, talking calculators, tactile aids, abacuses, larger prints, and magnifying glasses. A quarter of SVI indicated that they are accessing white

canes in sufficient manner, while 44% indicated its access as not sufficient and the remaining 30% indicated as not available at all. The accessibility of slate and stylus, braille paper, and spectacles at the schools has been observed to present some challenges.

Training and other supports

Table 20: Opinions of SVI regarding available training and other supports

No	Supports	Frequency (%)		
		Available in sufficient manner	Available, but not sufficient	Not Available at all
1.	Orientation & Mobility Training	17 (17.0)	19 (19.0)	64 (64.0)
2.	Braille Training	6 (6.0)	17 (17.0)	77 (77.0)
3.	Computer Training	7 (7.0)	19 (19.0)	74 (74.0)
4.	Abacus training	4 (4.0)	25 (25.0)	71 (71.0)
5.	Assistance to use any residual vision (Low vision)	7 (7.0)	29 (29.0)	62 (62.0)
6.	Training on Independent living skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, menstruation, care and identification of clothes, care of nails)	8 (8.0)	6 (6.0)	86 (86.0)
7.	Additional time for completion of examinations	22 (22.0)	41 (41.0)	37 (37.0)
8.	Additional time for completion of assignments	26 (26.0)	38 (38.0)	36 (36.0)
9.	Taking examinations using braille	11 (11.0)	13 (13.0)	76 (76.0)
10.	Additional support from your school teachers in classrooms	24 (24.0)	52 (52.0)	24 (24.0)
11.	Additional support from your school teachers outside the classroom	18 (18.0)	40 (40.0)	42 (42.0)
12.	Peer support from sighted students in classroom	33 (33.0)	55 (55.0)	12 (12.0)
13.	Peer support during break time to get around the school ground	44 (44.0)	38 (38.0)	16 (16.0)

Over half of those surveyed students reported they lack support/training on the majority of items outlined in Table 20. For instance, 64% of SVI reported that orientation and mobility training is

not available at schools. Additionally, 19% of respondents indicated that such training is provided, but insufficient, while 17% agreed that it is available in a satisfactory manner. Over half of the students who took part in the study reported that they did not have access to trainings on braille, computer, abacus, independent living skills, and taking examinations using braille. SVI agreed that they were receiving relatively better support from their sighted peers at the school. As an illustration, it was found that 44% and 30% of students recognised peer assistance as sufficient outside and inside classrooms, respectively. The support that received the highest ratings in terms of unavailability were trainings focused on independent living skills and braille, as well as the opportunity to take tests using braille. Whereas, support from sighted students and provision of additional time to complete examinations and assignments were indicated as sufficient by relatively high proportion of students.

Students' Reflections on the Practices of Inclusive instruction strategies by their teachers

Students have reflected on the extent of practice of some of the inclusion instruction strategies by their school teachers in the effort to include SVI in classrooms. The following table presents response of SVI.

Table 21: Students Response on Teachers' Practice of Inclusive Techniques in Classrooms

No	Question (Practice)	Options, n (%)				
		0	1	2	3	4
1.	Teachers consider the presence of visually impaired students in class and adjust their teaching approach accordingly	18 (18.0)	17 (17.0)	19 (19.0)	28 (28.0)	18 (18.0)
2.	Teachers speak clearly and face the class so that we can listen clearly	17 (17.0)	8 (8.0)	20 (20.0)	17 (17.0)	38 (38.0)
3.	Teachers replace some exam questions to make it appropriate for SVI	35 (35.0)	8 (8.0)	13 (13.0)	28 (28.0)	16 (16.0)

No	Question (Practice)	Options, n (%)				
		0	1	2	3	4
4.	Teachers make interaction with SVI	11 (11.0)	10 (10.0)	23 (23.0)	22 (22.0)	34 (34.0)
5.	Teachers put SVI on the first bench in classrooms	11 (11.0)	9 (9.0)	20 (20.0)	19 (19.0)	41 (41.0)
6.	Teachers simultaneously say what they are writing on black- or whiteboard so that SVI could listen	18 (18.0)	12 (12.0)	23 (23.0)	24 (24.0)	23 (23.0)
7.	Teachers provide additional explanations individually for SVI on some difficult issues, in classrooms	22 (22.0)	18 (18.0)	24 (24.0)	15 (15.0)	21 (21.0)
8.	Teachers provide additional explanations individually for SVI on some difficult issues, outside of classrooms	30 (30.0)	6 (6.0)	24 (24.0)	20 (20.0)	20 (20.0)
9.	Teachers adapt teaching aids and material to accommodate needs of SVI.	27 (27.0)	14 (14.0)	23 (23.0)	25 (25.0)	11 (11.0)
10.	Teachers use tactile and concrete materials to teach SVI	39 (39.0)	21 (21.0)	18 (18.0)	15 (15.0)	7 (7.0)
11.	Teachers closely follow-up the participation of SVI in classroom.	9 (9.0)	16 (16.0)	25 (25.0)	26 (26.0)	24 (24.0)
12.	Teachers encourage cooperative learning between SVI and sighted peers to support each other.	7 (7.0)	8 (8.0)	27 (27.0)	27 (27.0)	31 (31.0)
13.	Teachers use audio equipment to teach SVI	57 (57.0)	12 (12.0)	21 (21.0)	6 (6.0)	4 (4.0)
14.	Teachers minimize copying notes from black board, for SVI	33 (33.0)	25 (25.0)	16 (16.0)	17 (17.0)	9 (9.0)
15.	Teachers address SVI by their names when asking question or give instructions	8 (8.0)	8 (8.0)	22 (22.0)	32 (32.0)	30 (30.0)
16.	Teachers allow SVI to submit their homework and classwork in various ways like through voice recording and oral presentations	43 (43.0)	11 (11.0)	17 (17.0)	19 (19.0)	10 (10.0)
17.	To support education of SVI, Teachers use resources/ teaching aids found at the school inclusive education resource center	41 (41.0)	15 (15.0)	19 (19.0)	11 (11.0)	14 (14.0)
		0= Never	1= Rarely	2= Sometimes	3= Often	4= Always

The inclusive instruction strategies that were reported as ‘never’ being used by teachers and agreed by a significant number of students were as follows: the utilisation of audio equipment (57%), the utilisation of resources and teaching aids (41%), the use of tactile and concrete materials (39.0%), and the substitution of certain exam questions to be suitable for SVI students (35%). Relatively high proportion of students rated the following inclusion strategies were ‘always’ practiced by school teachers: putting SVI on the first bench in classrooms (41%), speaking clearly and face the class (38%), making interaction with SVI (34%), encouraging cooperative learning with sighted peers to support each other (31%), and addressing SVI by their names when asking question or give instructions (30%).

Quantitative Findings that need Further Investigation

For a deeper understanding of the problem being studied, some of the quantitative findings demand further explanations. For instance, the quantitative finding indicate that teachers have good understanding regarding inclusive instruction strategies that could be applied to teach students with visual impairment, but they were not practicing those strategies in classrooms as expected. Even, knowledge is not a significant predictor of practice of inclusive instruction strategies by the school teachers. Why teachers were not implementing what they know? IERC coordinators indicated that there were student textbooks in braille, but students agreed that there weren't enough, which is inconsistent. Shortage of basic educational resources for students with visual impairment were also prevalent at the observed schools, though IERC were available with the required SNE/IE expert, why is that so? Issues related to examination administration were also another part of the quantitative finding that demands further elaboration. To respond to the aforementioned and other similar follow-up questions, school teachers, SVI, and IERC coordinators were found out to be the

most appropriate respondents. Interview guides were prepared considering the aforementioned and others follow-up questions, which Annex 9 presents details of the qualitative data collection tools.

Part II: Qualitative Findings

The quantitative part of the pilot and main study resulted in similar findings with regard to teachers' knowledge about inclusive instruction strategies used to teach such students, their self-efficacy to teach SVI and attitude towards inclusion of SVI in regular schools and practices of inclusive instruction strategies in teaching SVI in regular primary and secondary schools of Addis Ababa. Therefore, the qualitative part of the pilot study was valid in explaining the quantitative part of the main study. Accordingly, the qualitative part of the pilot study was used after conducting additional interviews with SVI, teachers and IERC coordinators. The researcher approached a total of 13 students with visual impairment to respond to interview questions. Students with blindness and low vision took part in the study as indicated in Table 22 below. Moreover, semi-structured interview was conducted with the IERC coordinators at two primary and two secondary schools. Semi-structured interview was also conducted with six teachers drawn from primary and secondary schools. Interviews with one IERC coordinator, two students and one teacher were audio recorded and transcribed verbatim for data analysis and theme clustering. Interview notes were taken for the other remaining interviews.

Table 22: Demographic characteristics of students, for interview

School Level	Name of School	Gender	Grade Level	Vision Status	Age
Primary Schools	Menelik II	Male	8	Blind	17
		Female	6	Blind	16
		Female	6	Low vision	18
		Male	5	Low vision	24
	Dil Betigil	Female	8	Blind	17
	Secondary Schools	Menelik II	Male	11	Low vision
Female			10	Blind	19
Entoto Amba		Female	9	Blind	16
		Male	10	Low vision	27
		Tikur Anbesa	Female	11	Blind
Male			11	Blind	28
Belay Zeleke		Female	10	Blind	18
		Female	9	Blind	17

The thematic analysis of the qualitative data resulted in identification of themes related to lack of support for teachers, poor provision of resources and support services for students with visual impairment. The themes identified were detailed using sub-themes and are presented as follows:

Poor level of support for teachers

The findings of the quantitative part are reinforced by the response received from school teachers and IERC coordinators, which highlights the inadequate support provided to teachers in regular schools. Interviews revealed that IERCs were not offering training to teachers on inclusive instruction strategies that can be employed in teaching SVI. An illustrative example is the reply from a primary school IERC coordinator, who indicates that a lack of budget was cited as the cause for the failure to organise in-service trainings for teachers. Primary school teacher respondent

stated that *'we [teachers] are not capable of reading Braille which has caused a challenge on students during examinations and assignment submissions'*. The teacher emphasised the need of acquiring basic Braille reading skill and also collaborating closely with SNE specialists at schools. Shortage of textbook and reference books, in Braille, for students with visual impairment was also concern of teachers as, according to them, it affects the quality of support they provide for such students.

Teachers also indicated that large class size as one reason for failure to practice some of the inclusive instruction strategies while teaching SVI in regular schools. Some of the teacher also feel that closely assisting SVI in classrooms might take time of other students. One primary school teacher indicated that *'large class size is making it difficult to closely assist students with visual impairments in classrooms'*. Some teachers also reflected that they lack skills in managing SVI in regular schools with regard to the use of appropriate teaching methods, modifying textbook contents to the unique needs of SVI and using assistive technologies to improve inclusion practices.

Resource constraint

This theme covered concerns with regard to the accessibility of resources for students with visual impairment, such as Braille materials, audio materials and magnifying glasses. One issue that persisted across all of the schools visited was a dearth of braille resources, according to the vast majority of interviewed students with visual impairment. Access to braille textbooks was a problem at many of the schools visited. For instance, one of the schools visited had one braille copy of biology textbook for Grade 8 that was used by six pupils. Some textbooks were also said to be completely unavailable, as was the situation at another school where there were no braille versions of textbooks for history, civics, and geography. A resource center coordinator from one

of the schools stated that *'there is a huge challenge in providing textbooks in braille; the school should make such resources available as it was providing printed textbooks to sighted children'*.

Pupils with visual impairment indicated that even those few braille textbooks that are available at schools were incompatible with the textbooks used in the classroom by sighted students and their teachers. It was discovered that some schools had out-of-date braille textbooks in their library. An important example for this is the response from one of the IERC coordinator:

Currently the resource center has 553 textbooks in Braille format. But the numbers of books that are functional are close to 43, which the remaining are Braille versions of previous textbooks which are not functional this time (IERC coordinator at Primary School)

Moreover, almost all students who took part in the study suggested reference books in braille were not available. One grade 9 *student with blindness* stated, *"Accessing reference books at schools is impossible, there aren't nearly enough braille textbooks to begin with."* When the students were asked whether they read at their home, like after school and on weekends, the majority commented that they were not reading due to lack of Braille textbooks and reference materials.

Mixed responses were recorded regarding the accessibility of braille paper, and slates and styluses at the schools visited. Through the coordinators of their resource centers, some schools indicated that the materials were accessible to the students; while others claimed that it was difficult to supply such materials all year long. Some of the students who were interviewed admitted that they only receive these materials about once a year, after which they purchased their own. One Grade 9 *student with blindness* commented: *'there is shortage of braille paper, slate and stylus. Sometimes these resources were given as a reward for those students with visual impairment with better [academic] achievement'*. One resource center head also stated that

...It is unfair that the government does not supply Braille paper, slates, and styluses to SVI, but does provide exercise books, pencils, and pens to sighted students at the start of the academic year (Resource center head, secondary school teacher)

When asked if they used Braille to take notes in class, the vast majority of students—including those who had Braille paper, a slate, and a stylus—reported that they did not. Some of the causes included a shortage of supplies, such as Braille paper, inability to keep up with teachers' pace, a preference for audio recording class sessions, and inadequate support from teachers and sighted students.

The lack of audio recorders and audio resources was the other issue that students with visual impairment raised as a concern. Quite few students have audio recording equipment, including those with smart phones. The great majority of students lack audio recorder equipment. Those students who were not taking notes in classroom using Braille and at the same time without audio recorders, were highly dependent on their sighted peers, the latter one reading notes. A response from a blind grade 10 student details the prevalent challenge:

I have no audio recorder and also not able to write and read Braille. I totally depend on listening to lectures in classrooms. Sometime sighted students help me in reading notes.

Resource center coordinators were asked about the reason for failure of availing audio recorders for such students. One resource center head indicated that:

We urged the school administration to buy audio recorders for our visually impaired children, but [they] replied they have financial limitations. In my opinion, budget constraints weren't the problem, but rather negligence and not giving due attention to the needs of students with visual impairment. (IERC coordinator, from secondary school)

The budget issue is further illustrated by another IERC coordinator from one primary school which suggested that some of the IERC have no annual budget assigned by the school administrators.

She stated that:

I have served as the coordinator (at IERC) in 2013 and 2014 (E.C), which there was no budget allocated for our center. We have annual plan without budget and we look for volunteers so that they deliver training for our teachers and students for free. The school administrators were not willing to allocate budget and support our activities.

According to the students who participated in the interviews, schools also lack audio recorded resources that can support them in their studies. The same was confirmed in the conversation with the heads of the resource centers. Lack of magnifying glasses and eyeglasses for students with low vision were also identified as challenges at schools. These problems were exacerbated because frequently schools fail to provide enlarged prints for students with low vision. It was also evident that schools did not have resources, like talking calculators and abaci for their students with visual impairment. Overall, these results reflect the difficulties related to access to basic resources to support education of students with visual impairment at local schools. Few students mentioned access to white cane as a barrier, and the majority of students who were interviewed had white cane.

Minimal support provision

The following subthemes related to support emerged from the responses of the participants involved in this study: examination administration, support from students and teachers to complete assignments, and training in disability-specific needs.

Examination Administration

One of the challenges that SVI anonymously identified as the most difficult was related to examination administration. Respondents indicated that examinations were not administered using braille as subject teachers lack the ability to transcribe braille. This situation, according to students and SNE specialists, has forced the students to take examinations orally by the support of sighted peers and subject teachers. Across all the schools visited, classroom tests were administered by the support of sighted peers drawn from the same classroom. One student with low vision described his experience as:

If the student assigned during examination is not a good reader, it will be very difficult to comprehend the question and respond appropriately. This is a common challenge that I face during examinations

On the other hand, teachers were in charge of administering the midterm and final examinations, which students interviewed pointed out some advantages and limitations about it. As an advantage, teachers were indicated to be better at reading and recording responses of students. This arrangement, however, was not always positive. For instance, a Grade 10 student with blindness stated the following:

Most teachers are not happy to administer examination for us [students with visual impairments]. They are not willing to repeat questions and also force us to respond quickly.

In two of the schools visited, one teacher was assigned to one student to administer examinations due to the relatively few numbers of students with visual impairment at the schools. In contrast, the majority of students' responses revealed that examinations for students with visual impairment were given in groups, with one teacher assigned to simultaneously administer examinations for two or more students. In this arrangement, the teacher read the test items while facing the students, and recorded the responses of each student on separate exam sheets. The students responded with their fingers, with one finger to indicate option 1 or a, two fingers to indicate option 2 or b, etc. The great majority of students expressed their frustration with this arrangement due to challenges and inaccuracies in recording their responses. Talking about this issue, participants said:

I encountered an examination that has 13 matching items which I faced a challenge to communicate my responses using fingers (Grade 6 student with blindness)

When marked examination papers were returned last time, I realized that although I had answered one question accurately with my fingers, the teacher recorded my response incorrectly, costing me a mark because of inaccurate response recording (Grade 11 student with low vision).

When there are confusing questions that I skipped for later checking, teachers were not happy to go back and read again. The situation [taking examinations in group] was also not convenient to skip questions and respond later. (Grade 11 blind student)

In some instances, students indicated that the teacher's voice was not loud enough to listen and also examination places were reported to be inconvenient, not *quiet* as required.

One teacher agreed that examination administration for students with visual impairment is not something that teachers would be happy about. *‘Teachers prefer to administer exam for sighted students, as they have nothing to do rather monitor students. But in case of visually impaired students, they have to read and record their response, which students may not have the same pace to respond’*. So, according to the teacher, administering examination for such students is time taking and source of frustration which teachers force students to rush in responding.

Support from Students and Teachers to Complete Assignments

It was reported that schools pair SVI with sighted peers for support. Assignment submissions were mostly done using handwritten documents that SVI were neither able to complete independently nor submit using braille. In these cases, according to students who took part in the study, they look for assistance of their sighted peers to write the assignment using paper and pen. One student listed the following as a challenge:

I have encountered a lot of challenges in submitting assignments. I have to beg sighted peers to support me in writing my assignment, which sometimes they are busy and not willing to assist’ (Grade 10 student with blindness)

SVI acknowledged the presence of quite few teachers who extend support aligned with their needs. These supports include individual explanations on difficult topics, psychological support and preparation of appropriate resources. Sighted students' support for students with visual impairment seems to vary at primary and secondary school levels. For instance, at primary schools, *‘sighted peers were not willing to devote their time, as they want to play more, and are mostly not willing to support us on reading and doing assignments’* (Grade 8 student with blindness). At secondary schools, it was anonymously reported to be relatively better, and similar challenges were reported less frequently.

Training in Disability-Specific Needs

Most of the primary and secondary schools visited did not offer basic computer training to students with visual impairments. There are several reasons why students were not attending Information Communication Technology (ICT) lessons, according to resource center coordinators who were interviewed. Lack of audio-supporting software like JAWS, students with visual impairment being not willing to attend ICT classes, and the subject teachers' refusal to teach such students were some of the reasons. One blind student in grade 11 had the following view:

The school has many computers at the ICT center, which JAWS was not installed.

I don't think it was difficult to install the software and make it accessible for us

[students with visual impairment]. (Grade 11 student with blindness)

Interview analysis suggested that school IERCs make limited contributions to equip students with visual impairment with basic skills of abacus, braille, orientation and mobility, and daily living skills. IERC coordinators confirmed this situation. It is a common experience to observe IERCs being closed during the school time as SNE professionals assigned at the center were in classrooms teaching other subjects. One IERC coordinator shared her opinion as follows:

Currently, coordinating various activities of the center [IERC] and supporting students with special needs is not my priority assignment as I was assigned to teach other subjects in classrooms. Like other subject teachers, I have to devote much of my time for classroom preparation, exam preparation, marking, and engaging students in various activities. The amount of time left at the center is very minimal. I believe that effective engagement at center requires a full-time commitment which the reality on the ground is not encouraging to do that (Primary school IERC coordinator)

According to IERC coordinators, budget constraints and lack of resources were other challenges that hampered the effectiveness of support services provided by IERCs to students with visual impairment at schools.

CHAPTER FIVE

DISCUSSION

The aim of this study is to investigate factors affecting teachers' practice of inclusive instruction strategies to teach SVI in regular schools and the problems such students faced in regular schools of Addis Ababa. This chapter presents comprehensive discussions of the main study findings of both quantitative and qualitative data, in relation to the specific research objectives. The subsequent paragraphs provide an analysis of the results obtained from the current study and their relation with previously conducted studies of a similar nature.

Knowledge

Mu et al. (2015) underscored that knowledge is one of the professional competences of teachers related to effective teaching approaches. According to an investigation by Tseeke (2021) in South Africa, lack of knowledge about inclusive education, along with other reasons, was considered as one factor for the low levels of teachers' self-efficacy in teaching learners with visual impairment in inclusive settings. In the current study, teachers have a good understanding regarding the various inclusive instruction strategies that could be applied to teach SVI in regular schools. This finding is consistent with that of a local study conducted by Moti et al. (2018) in Nekemte town primary schools, which found that teachers had a moderate level of awareness regarding inclusive education. The finding is also consistent with findings of another local study by Mekuria (2021), though the study was conducted on College Teacher Educators', which their knowledge was reported to be good. The finding contradicts the study conducted in Lesotho by Mosia (2014) which revealed that teachers lack understanding about what constitutes an inclusive education.

With regard to comparison of knowledge against demographic characteristics of teachers, the present study revealed absence of statistically significant difference among the various levels of groupings. This is consistent with the findings of Moti et al. (2018), which showed that knowledge on inclusive education was not affected by teachers' gender, training and teaching experience.

Self-efficacy

This study indicated that teachers have moderate perceived capability (self-efficacy) to teach SVI in regular schools. This result is in agreement with that of a meta-analysis study conducted by Dignath et al. (2022), and Kuyini et al. (2018) who found out that teachers efficacy about inclusion was found to be moderate level. Contrary to this, other studies documented a very high level of teachers' self-efficacy in handling students with special educational needs (Hecht et al., 2017; Mandabon, 2023). Hofman and Kilimo (2014) stated that that teachers who have low self-efficacy have greater difficulties when it comes to implementing inclusive education. In contrary, teachers with high self-efficacy set challenging goals, are confident and motivated in highly demanding educational tasks and can cope with stressors and negative feelings. Similarly, Sharma et al. (2012) indicated that teachers with low self-efficacy find it difficult to implement inclusive teaching strategies in their classrooms because they believe they are unable to meet the needs of all pupils. So, working on self-efficacy of teachers needs further attention to improve inclusion of SVI in regular schools.

The findings of the present study showed that the majority of the demographic characteristics of teachers considered did not significantly relate to the teachers' self-efficacy to teach SVI, except training on SNE/IE. Tschannen-Moran & Hoy (2007) indicated that demographic variables were not typically predictors of teachers' self-efficacy. Similar findings

were reported through multiple studies in which, for instance, teachers' gender was not significantly related to their self-efficacy towards inclusive education (Antoniou, Geralexis & Charitaki, 2017; Hofman and Kilimo, 2014; Kazanopoulos et al., 2022; Kuyini et al., 2018; Savolainen et al., 2022; Tschannen-Moran & Hoy, 2007). In contrast, the study by San Martin et al. (2021) indicated that female teachers are better self-efficacious than their male counterparts.

Concerning the effect of teaching experience on self-efficacy of teachers, the present study corroborates the findings of Meidrina et al. (2017), Kuyini et al. (2018), and San Martin et al. (2021) in which there is no difference in self-efficacy of teachers with different years of teaching experiences. This finding is also in congruence with that of Antoniou, Geralexis & Charitaki (2017), Savolainen et al. (2022), and Woodcock et al. (2023). The present finding also supports Woodcock et al. (2023) study which concluded that there were no statistically significant differences in teachers' self-efficacy among the levels of educational qualifications, particularly between those with undergraduate and postgraduate qualifications. Regarding the effect of training on SNE/IE, the present study indicated those teachers who took training on SNE/IE reported relatively higher efficacy than those counterparts without training, and the difference is statistically significant. This finding supported the study conducted by Tzivinikou (2015) which indicated the positive impact of training programs on teachers' self-efficacy with regard to collaborative educational interventions for their students with special needs. It also goes in line with the study of Kuyini et al. (2018) which indicated that training in special education were significantly related to improved self-efficacy beliefs.

Attitude

The current study has documented that teachers have a moderate attitude towards the inclusion of SVI in regular schools. This contradicts with that of Boer, Pijl & Minnaert (2011) which showed

that teachers had a negative or neutral attitude towards inclusive education in general. The current study also differs with the findings of Ogadho et al. (2015) on Kenyan teachers drawn from Kisumu County which revealed prevalent negative attitudes of teachers towards inclusion and children with disabilities. Similarly, research by Alzemaia (2019) also found a negative attitude of teachers, at pre-training stage, towards inclusive education in Saudi Arabia. On the other hand, the findings of this study corroborates the results of the study conducted by Johnstone & Chapman (2009) and Zainalabidin & Ma'rof (2021) that documented a moderate level of teachers' attitude towards inclusive education in Lesotho and Malaysia, respectively. The current study is also in line with research conducted by Jaffer & Abdulfettah (2019) in Southern Ethiopia, in which teachers were found out to have a slightly positive attitude towards inclusion of learners with special education needs in regular schools. A study conducted by Moti et al. (2016) in Nekemte town, Ethiopia, found that teachers in the study area had a neutral attitude towards inclusive education. This difference with the findings of the current study could be attributed to the place of study; the previous study was conducted in rural part of Ethiopia. In this study, there is no significant relationship between demographic characteristics of teachers and their attitude towards inclusion of SVI in regular schools. This finding corporates findings of Sesay (2018) which no significant relationship was reported between attitude towards inclusion and independent variables like gender, educational background and teaching experiences. Similarly, Jaffer & Abdulfettah (2019) reported that no statistical significant difference in teachers' attitudes towards inclusion in terms of their highest education level, teaching experience, and training on SNE/IE. The present finding also support the study of Gyimah et al. (2010) and Dapugong (2014) which concluded that gender is not related to teacher attitude towards inclusive education. Ackah (2010) also showed similar results in which gender, teaching experience, and professional qualifications were not

having effect on teachers' attitude towards inclusive education. However, the present study contradicts when it comes to explaining the effect of experience and school level on attitude towards inclusion. Gyimah et al. (2010) indicated that teaching experience influenced attitude of teachers towards inclusion in such a way that those with many years of experience, held better positive attitude towards inclusion. The same study also reported that teachers at secondary school have favourable attitude than their counterparts at primary school. Jaffer & Abdulfettah (2019) showed that female teachers have better attitude than their male counterparts do. This differs from the findings presented here.

Practice and Factors affecting it

This study documented an average level of teachers' practice of the various inclusive instruction strategies in the inclusion of students with visual impairment in regular schools. Whereas, studies conducted in local context suggest existence of poor level of practice of inclusive education by school teachers. For instance, the study conducted by Moti et al. (2018) reported that teachers at primary school rarely practiced inclusive education. Similarly, Geleta (2019) found that the level of implementation of inclusive education in general schools drawn from Sebeta town was very poor. This difference in the findings could be attributed to the place of the study; the current study was conducted in Addis Ababa which is urban area.

This study indicated that Knowledge is not a significant predictor of teachers' practice, while Self-efficacy and Attitude were able to predict inclusion practices of teachers in regular schools. The present finding supports the study of Kuyini and Desai (2007) that documented attitude towards inclusion significantly predicts effective inclusive teaching practices. It also goes in line with that of Zee and Koomen (2016) which indicated that self-efficacy predicts inclusive practices at

schools. It also resulted in similar findings like that of Hofman and Kilimo (2014) that suggested the implementation of inclusive education is more problematic for teachers who have poor self-efficacy. Similar findings were also reported by Sharma et al. (2012), which indicated that teachers with poor self-efficacy were challenged to implement inclusive instruction strategies in classrooms. Nevertheless, the results of the present study contradict the earlier local research conducted by Moti et al. (2018), which suggested that teachers' knowledge had an impact on the practice of inclusive education, while their attitude did not. This study has been unable to demonstrate that knowledge is a significant predictor of inclusive practices as indicated by Kuyini and Desai (2007) and Tseeke (2021). This is may be due to the existence of multiple challenges that affect the effective implementation of inclusive practices on the ground. Regarding comparison of extent of teachers' practice of inclusive instruction strategies against their demographic characteristics, no significant relationship was found in this study. The finding is consistent with findings of past studies by Alzemaia (2019), which indicated that inclusive practices was not affected by teachers' age, experience and qualification.

Support services, resource availability and existing Challenges

It is positive that IERCs were established and SNE specialists were placed in schools in order to improve inclusive education practices in Ethiopia. But, these centers were found out to be under resourced to support the inclusion of students with visual impairment. The findings of the study revealed the lack of resources and the existence of poor levels of support for students with visual impairment in regular schools in Ethiopia. It was also evident that students with visual impairment were facing multiple challenges in local primary and secondary schools of Addis Ababa. There was a dearth of braille resources for students with visual impairment, which was one of the study's key results. The study documented scarcity of textbooks in braille format and absence of reference

materials prepared in braille. Students interviewed also shared the challenge of accessing audio materials, braille paper, and slates and styluses. These results confirmed findings of the studies conducted by Mitiku et al. (2014) and Abera (2021), who identified lack of braille books as a challenge for students with visual impairment in local schools and inclusive classrooms. Similarly, Anto (2004) and Awetash (2015) reported shortage of special materials and equipment for these students in local schools, as did supported by Franck (2015) who stated that SVI mainstreamed in Ethiopian schools were not provided with textbooks and learning materials. The findings of the current study also supported those of Bilka (2020), who identified lack of tactile materials in schools as a challenge for students who are blind. In general, shortages of teaching and learning materials were common challenges faced by SVI enrolled in local schools (Fufi 2020; Rachel, 2016; Zebiba, 2020). These findings contradict standards indicated in some of the working documents of the MoE (2012, 2015). These documents state that local schools need to be equipped with various resources and specialized materials to support the education of children with disabilities in general and that of students with visual impairment in particular.

SVI and the coordinators of IERCs highlighted the presence of support services, but indicated them as being of poor quality. The study revealed challenges related to examination administration, assignments, support from sighted peers and teachers, and specialized training supports from IERCs. The findings were in agreement with Biniam's (2016) study which showed that schools fail to accommodate students with visual impairment during examination administrations. Problems of getting readers, allocating inadequate exam time, and non-conducive exam places were reported as failures of the system to accommodate such children in local schools. Another important finding was that students with visual impairment were challenged when submitting

assignments. Teachers were not able to read assignments submitted using braille, so students relied on sighted peers to assist with the preparation of their responses in pen-paper written form, which was described as inappropriate by the interviewed students with visual impairment. This finding corroborates results of the study conducted by Franck (2015) and were also in agreement with those of Bilka (2020).

It is interesting to note that students with visual impairment interviewed for this study acknowledged the relatively better support they were receiving from their sighted peers, particularly at secondary schools. However, these findings do not support the previous local research conducted by Bantyrugu (2014) and Kebede (2015), in which social isolation and withdrawal were reported as resulting from negative attitudes of sighted students towards their peers with visual impairments. This discrepancy could be attributed to the location of the studies conducted; the current study was conducted in Addis Ababa, where relatively better levels of awareness might exist.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was designed to investigate factors that affect teachers' practices of inclusive instruction strategies used to teach SVI in regular schools. Teachers' practices of inclusive instruction strategies in teaching children with visual impairment was determined by their knowledge of inclusive instruction strategies, their self-efficacy to teach SVI, and their attitude towards inclusion of such students in regular schools. Moreover, it assessed the availability of supports and resources for SVI in regular schools and also assessed challenges on the ground. The following sections present summary, conclusion and recommendations of the study.

6.1 Summary

Knowledge

Quite majority of teachers were aware on the need to adapt their teaching styles considering presence of SVI in classrooms. They were also familiar on the need to plan for alternative assignments and examinations for such students attending in regular schools. Some gaps were noted with regard to the understanding of some teachers on the need to provide additional time for SVI to complete examinations/homework/classwork and also to acknowledge that these students have unique needs in classrooms due to their visual impairments. The difference in teachers' knowledge about the inclusion strategies for students with visual impairment was found out to be statistically insignificant among the various demographic variables including sex, level of education and years of teaching experience and training on SNE/IE.

Self-efficacy

Significant number of teachers reported that they lack ability regarding utilization of assistive technologies, preparation of instructional materials that fits to the needs SVI, preparation and implementation of IEP ad adaptation of textbook contents to the needs of SVI. Similar to the knowledge aspect, self-efficacy was not influenced by the demographic characteristics of teachers, with exception of training on SNE/IE, which those trained on SNE/IE at pre- and in-service level reported better self-efficacy than those without training exposure.

Attitude

More than half of teachers agreed that inclusion of students with visual impairment in regular schools is beneficial to other students and they also indicated their favourable attitude of welcoming such students in their classrooms. They also have positive attitude towards adjusting their teaching approaches so that it fits to the needs of SVI. Significant number of teachers indicated that assisting students with visual impairment in inclusive classrooms takes time of other students and also favoured special school for such students over the inclusive education settings. The attitude of teachers was found out to be not influenced by demographic characteristics like school level where they teach, educational level and gender of teachers. Teachers who took courses or training on SNE/IE at both the pre- and in-service levels exhibited a greater attitude in comparison to those who received training at either level, as well as those who had no prior exposure to the topic

Practice

Some of the inclusion strategies that were practiced better than others include placing these students on the first bench, speaking while facing the class, appropriate use of blackboard,

addressing students with visual impairment by their names, and closely following their class participation. Whereas, inclusion strategies that were reported to be practiced less frequently included administering tests using braille, preparation and implementation of IEP, use of audio equipment, allowing such students to submit assignments in various ways including voice recording, and modifying lessons that were not aligned to the needs of SVI. No statistically significant difference was observed in extent of practice of the various inclusive instruction strategies that were used to teach SVI among the various groups of teachers with regard to their school level, gender, level of education and years of teaching experience. Teachers who completed courses or training on SNE/IE at both the pre- and in-service levels had superior performance in practice compared to those who received training at either level, as well as those who had no prior exposure to the topic.

Effect of Teachers' professional competence on Practice

The Hierarchical Multiple Regression Test was conducted in four blocks using demographic characteristics, knowledge, self-efficacy and attitude as predictor variables while practice as criterion variable. Self-efficacy and attitude were significantly predicting practice of inclusive instruction strategies by school teachers while knowledge is not predicting practice. From those predicting criterion variables, self-efficacy has a larger impact on practice than attitude.

Resource and support for SVI

The IERC observation conducted and response from SVI suggest that inclusion of SVI in regular schools has many limitations including shortage of resources and support services. Schools have shortage of braille text/reference books, audio materials, magnifying glasses, talking calculators etc. IERC's were also having limitation in providing training on orientation & mobility, braille,

computer, abacus and independent living skills for SVI and teachers, as appropriate. Provision of additional time for students with visual impairment to complete examinations was not uniformly practiced across schools, and it has limitation in this regard. SVI also indicated the existence of poor level of support from their teachers inside as well as outside of classrooms. Nevertheless, they showed the relatively better support they were receiving from sighted peers. The qualitative part of the study has also resulted in similar findings. SVI were facing multiple challenges when taking examinations and doing assignments. Examinations were mostly conducted orally through the support of sighted peers or teachers. Exam administration through the use of braille is not practiced at schools due to lack of resources and skill gap in reading/writing braille. Teachers administer examinations usually in groups which has its own limitations. Teachers were not willing to administer examinations for SVI as they indicated it takes relatively long time to read and record their response. So, it is a common challenge, as reported by students, that teachers force students to respond to questions quickly and also fail to read questions more than once.

6.2 Conclusion

Based on the findings of the study, it can be concluded that school teachers have good understanding of the various inclusive instruction strategies that could be applied to teach SVI enrolled in regular schools. In terms of self-efficacy, teachers possessed average self-efficacy to teach SVI mainstreamed in regular schools. Regarding teachers' attitude, they were found out to have favourable attitude towards inclusion of SVI in to regular schools. Teachers' response indicate that practice of inclusive instruction strategies in teaching SVI resulted in above average. Training on SNE/IE, self-efficacy and attitude resulted as significant predictors of teachers' practice of inclusive instructions strategies in regular schools, self-efficacy being the better predictor.

Teachers indicated that the level of support they were receiving from SNE specialists at their school to improve their practice as unsatisfactory or non-existent. Teachers also reported large class size and shortage of resources and support from SNE specialists as some reasons affecting their inclusion practices at schools. The establishment of IERCs at schools was a commendable engagement of the government to further improve the quality of education for students with special educational needs including those with visual impairments. These centres were not operating as per the expected standard for various reasons. Their engagement in capacitating teachers on inclusive strategies as well supporting SVI was not encouraging.

6.3 Recommendations

Based on the major findings of the study, the following recommendations were suggested:

The study has indicated that self-efficacy and attitude of teachers were significant predictors of teachers' practice of inclusive instruction strategies in teaching teach SVI. These indicate on the need to equip teachers with the required attitude and self-efficacy to further improve teachers' practice of inclusive instruction strategies to support SVI and others as appropriate. These could be done through strengthening pre- and in-service teacher trainings. The focus of pre- and in-service trainings shall not be limited to fostering knowledge about inclusive education, but rather also focus in improving teachers' attitudes towards inclusion and also equipping them on disability-specific inclusive instruction strategies to support SVI mainstreamed in regular schools. The Ministry of education should focus on ensuring that new graduates are equipped with the required knowledge, self-efficacy, and attitudes to become teachers capable of practicing inclusive education.

The study highlighted that those teachers who completed courses or training on SNE/IE at both the pre- and in-service levels reported better self-efficacy as well as favourable attitude compared to those who received training at either level, as well as those who had no prior exposure to the topic. This suggests that schools can work on capacitating their teachers for improved inclusion practices. It is also a common incidence that schools have teachers without the required preparation for the teaching profession, which in-service trainings can help to address gaps in the implementation of inclusive education. Even those teachers trained on teaching profession can improve their inclusion practices through in-service trainings, the study indicated.

IERC's were facing multiple challenges on the ground and are performing below the expected levels. Education officials at various levels should closely follow the performance of centers with regard to the status of service and support they are providing and also addressing challenges they encounter. Addressing shortage of resources and budget at the centers need attention of education officials. Moreover, SNE specialists assigned at centers were mostly engaged in classroom teaching, which leaves with little or no time to discharge activities at IERCs. There is no uniform assignment of SNE specialists in classroom teaching across the schools visited for data collection, which suggests for the need to establish uniform working procedures in such a way that assignment of SNE specialists to classrooms should not affect discharging their activities at IERC. There is a need to strengthen IERCs and further capacitating SNE specialists so that they become proactive in addressing the existing challenges in implementation of inclusive education in regular schools.

Limitations and Future Research

The study has a limitation in solely relying on self-reported data from the school teachers regarding their knowledge, self-efficacy, attitude and practices due to budget constraints. These results therefore need to be interpreted with caution and future studies could consider integrating other

data sources like classroom observations. Further investigation of teacher's inclusion practices of students with visual impairment in other parts of the country is also strongly recommended. The situation in Addis Ababa might be different than other regions due to various reasons which demands closer look of the situation for further understanding. Moreover, the area of investigation in the present study is relatively not studied well and it needs further exploration to establish a greater degree of accuracy on factors affecting teachers' practices of inclusive instruction strategies in regular schools.

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APPENDICES:

Annex 1: List of Schools Visited for Data Collection

No	Subcity	Name of School	Level of School
1	Addis Ketema	Yekatit 23	Primary
2	Akaki Kality	Furi	Primary
3	Akaki Kality	Ethio-Japan Hidase	Secondary
4	Akaki Kality	Fitawrari Abayineh	Secondary
5	Akaki Kality	Gelan No 2	Primary
6	Akaki Kality	Akaki Mengist	Primary
7	Akaki Kality	Kality	Secondary
8	Arada	Yealem Birhan	Primary
9	Arada	German Church	Primary
10	Gullele	Mieraf	Secondary
11	Gullele	Dil Ber	Secondary
12	Gullele	Hamle 19/67	Primary
13	Gullele	Kechene Debre Selam	Secondary
14	Gullele	Tsehay Chora	Primary
15	Gullele	Dejazmach Belay Zeleke	Primary
16	Kirkos	Temenja Yaz	Secondary
17	Kolfe Keranio	Keranio Medhanialem	Secondary
18	Kolfe Keranio	Abune Baseliyos	Primary
19	Kolfe Keranio	Woyra	Primary
20	Kolfe Keranio	Repi	Secondary
21	Kolfe Keranio	Jemo	Primary
22	Kolfe Keranio	Tinbite Ermias	Primary
23	Lideta	Alem-Maya	Primary
24	Lideta	Tesfa Kokeb	Primary
25	Lideta	Hidase Lideta	Secondary
26	Lideta	Ediget Besira	Primary
27	Lideta	Kefitegna 23	Secondary
28	Lideta	Dej. Balcha Abanefso	Secondary
29	Yeka	Yeka Terara	Primary
30	Yeka	Kokebe Tsibah	Primary
31	Yeka	Wondirad	Primary
32	Yeka	Kokebe Tsibah	Secondary
33	Yeka	Wondirad	Secondary
34	Yeka	Tesfa Birhan	Secondary

Annex 2: Number of Teachers Sampled from the Primary and Secondary Schools

No	Name of School	Number of teachers	Percent
1.	Abune Baseliyos Primary school	15	3.6
2.	Akaki Mengist Primary school	8	1.9
3.	Alem-Maya primary school	14	3.3
4.	Dej. Balcha Abanefso Secondary school	9	2.1
5.	Dejazmach Belay Zeleke primary school	9	2.1
6.	Dil Ber Secondary school	9	2.1
7.	Ediget Besira Primary school	13	3.1
8.	Ethio-Japan Hidase Secondary school	13	3.1
9.	Fitawrari Abayineh Secondary school	8	1.9
10.	Furi Primary school	14	3.3
11.	Gelan No 2 Primary school	15	3.6
12.	German Church Primary School	15	3.6
13.	Hamle 19/67 Primary school	14	3.3
14.	Hidase Lideta Secondary school	12	2.9
15.	Jemo Primary school	13	3.1
16.	Kality Secondary school	10	2.4
17.	Kechene Debre Selam Secondary school	15	3.6
18.	Kefitegna 23 Secondary school	13	3.1
19.	Keranio Medhanialem Secondary school	14	3.3
20.	Kokebe Tsibah Primary school	8	1.9
21.	Kokebe Tsibah Secondary School	16	3.8
22.	Meraf Secondary School	10	2.4
23.	Repi Secondary school	11	2.6
24.	Temenja Yaz Secondary school	9	2.1
25.	Tesfa Birhan Secondary School	19	4.5
26.	Tesfa Kokeb Primary school	14	3.3
27.	Tinbite Ermias primary school	14	3.3
28.	Tsehay Chora Primary school	12	2.9
29.	Wondirad primary school	12	2.9
30.	Wondirad Secondary School	7	1.7
31.	Woyra Primary school	16	3.8
32.	Yealem Birhan Primary school	16	3.8
33.	Yeka Terara Primary school	9	2.1
34.	Yekatit 23 Primary School	15	3.6
	Total	421	100.0

Annex 3: DATA COLLECTION TOOLS-English Version
Addis Ababa University

College of Education and Behavioural Sciences

Department of Special Needs and Inclusive Education

Tool 1: Survey Questionnaire for Primary & Secondary School Teachers

Dear Teacher:

This questionnaire is prepared to gather data for academic purpose. The study entitled ‘**Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices**’ has main purpose of assessing teachers’ practice of inclusive education techniques in teaching students with visual impairment in regular primary and secondary schools of Addis Ababa. The information you will provide has significant value in the study. Therefore, I am requesting you to give responses that reflect your knowledge, attitude and practice, no one is going to judge you based on your responses. You can indicate your responses for questions with options by encircling your response or using ‘√’ and ‘x’. The inquiry is voluntary and confidential and your response will be used for the study purposes alone. There is no need to write your name on the questionnaire. The questionnaire will take 20 minutes to complete.

Note: in this questionnaire, children with visual impairment refers to both with blindness as well as low vision.

Thank you in advance for taking the time to participate in this study and you can find me using Ermias Kibreab (Phone: +251911149268) for any queries.

Part I: Background Information of Respondents

Read the following questions and provide your answer by encircling on appropriate options or in writing in the space provided.

Question	Options
1. Sex	1= Male 2= Female
2. Current educational qualification	1= Certificate 2= Diploma 3= BSc/BA/B.Ed 4= MA/MSc/Med 5= Others

3. Name of university/college that you graduated your last academic achievement	
4. Name of School	
5. Age	1. Below 25 2. 25-30 3. 31-35 4. 36-40 5. 41 and above
6. Teaching Experience in Years	
7. Have you primarily graduated to become a teacher?	1. Yes 2. No
8. If 'No' to question 6 above, did you attend PGDT or other courses/ trainings to help you teach at schools?	1. Yes 2. No
9. Have you taken courses on SNE/IE at college/university level?	1. Yes 2. No
10. Have you received on-job training on SNE/IE?	1. Yes 2. No

Part II: Teachers' knowledge of inclusive education techniques in teaching children with visual impairment

Instruction: Dear teacher, please read the following statements and decide each of them as True or False based on your understanding. No one will judge you on your responses.

No	Question (Knowledge)	Options	
		True	False
1.	There is a need to modify textbook contents considering the unique needs of children with visual impairment		
2.	Teachers need to consider the unique needs of children with visual impairment when preparing lesson plans		
3.	Teachers shall prepare alternative homework/classwork for children with visual impairment as appropriate		
4.	Teaching textbook contents for children with visual impairment require additional preparation of teachers		
5.	Some textbook topics may not be as simple for visually impaired students to understand as they are for sighted students, so they need to be replaced by other similar ones that are easy to understand		
6.	The teacher has to adapt his/her teaching style when there is a student with visual impairment in class		
7.	Individual Education Plan can help to assist children with visual impairment in their education		

No	Question (Knowledge)	Options	
		True	False
8.	SVI have unique needs to attend classrooms due to their visual impairment		
9.	Teaching SVI together with sighted peers helps to support each other		
10.	Teaching children with visual impairment requires collaboration with special needs experts		
11.	SVI require additional support from their teachers while learning in inclusive classrooms		
12.	SVI require additional time to complete homework/classwork		
13.	Instructional materials need to be contextualized to the needs of SVI		
14.	Tactile and concrete materials need to be used to teach SVI		
15.	Children with visual impairment should get textbooks in Braille		
16.	Teachers shall prepare alternative tests or test items for children with visual impairment as appropriate		
17.	SVI require additional time to complete examinations		
18.	Children with visual impairment can submit their homework and classwork in various ways like through voice recording and oral presentations		

Part III: Teachers' attitude towards inclusion of children with visual impairment in regular schools

Please complete the following scale by circling the appropriate response corresponding to your belief. Use the following key to determine your answer. Please circle a response.

1= Strongly Disagree 2= Disagree 3= Uncertain 4=Agree 5=Strongly Agree

No	Question (Attitude)	Options				
		1	2	3	4	5
1.	Assisting SVI in regular class takes time of other students	1	2	3	4	5
2.	Visually impaired students should learn separately in special class/ in a separate school.	1	2	3	4	5
3.	The inclusion of students with disabilities, like with visual impairment, in regular classroom is beneficial to other students.	1	2	3	4	5
4.	I would welcome the inclusion of visually impaired students in my class.	1	2	3	4	5
5.	I support inclusive teaching as a successful education system to address needs of learners with visual impairment.	1	2	3	4	5
6.	Teachers have responsibility to support children with visual impairment in regular classrooms	1	2	3	4	5

No	Question (Attitude)	Options				
		1	2	3	4	5
7.	I am ready to work in collaboration with special needs experts to teach children with visual impairment	1	2	3	4	5
8.	I am willing to adjust my teaching approach when there are SVI in my class	1	2	3	4	5
9.	I am willing to adjust teaching aids and materials considering the unique needs of SVI	1	2	3	4	5
10.	Learning assessments should put SVI in to considerations	1	2	3	4	5
11.	I have the courage to modify textbook contents so that they serve SVI	1	2	3	4	5
12.	I believe that students with visual impairment can achieve better in examinations	1	2	3	4	5
13.	I believe that SVI can make active class participations	1	2	3	4	5
14.	I believe that SVI can solve challenging tasks by their own	1	2	3	4	5
15.	I feel that including SVI in regular classrooms has a social benefit	1	2	3	4	5
16.	The teaching learning process won't be disturbed if SVI are allowed to submit their homework and classwork in various ways like through voice recording and oral presentations	1	2	3	4	5

Part IV: Teachers' Self-efficacy

Please complete the following scale by circling the appropriate response corresponding to your belief. Use the following key to determine your answer. Please circle a response.

1= Strongly Disagree 2= Disagree 3= Uncertain 4=Agree 5=Strongly Agree

No	Question (self-efficacy)	Options				
		1	2	3	4	5
1.	I have the capability to effectively teach students with visual impairment in regular classrooms	1	2	3	4	5
2.	I am able to prepare and implement individual education plan for SVI	1	2	3	4	5
3.	I have the capability to teach textbook contents by considering SVI	1	2	3	4	5
4.	I have the capability to support SVI mainstreamed in regular classrooms	1	2	3	4	5
5.	I have the capability to prepare resources/teaching aids that can serve the interest of SVI	1	2	3	4	5
6.	I have the capability to prepare examination suitable for SVI	1	2	3	4	5
7.	I have the capability to discipline students with VI in classrooms	1	2	3	4	5
8.	I have the capability of using assistive technology for SVI	1	2	3	4	5

Part V: Teachers' Practices of inclusive education techniques in teaching children with visual impairment

Instruction: From the following list of activities, which of the following do you practice in teaching children with visual impairment in inclusive education? Please indicate the extent of your practice using the following rating scale:

0= Never 1= Rarely 2= Sometimes 3= Often 4= Always

No	Question (Practice)	Options				
		0	1	2	3	4
1.	I consider the needs of visually impaired students in my class when preparing a lesson plan,	0	1	2	3	4
2.	I consider the presence of visually impaired students in class and adjust my teaching approach accordingly	0	1	2	3	4
3.	I speak clearly and face the class when I speak	0	1	2	3	4
4.	Appropriate use of blackboard for children with low vision (clean, no shadow, no reflection, written neatly)	0	1	2	3	4
5.	I stand where glare is minimized	0	1	2	3	4
6.	Replacing some exam questions to make it appropriate for SVI	0	1	2	3	4
7.	Providing additional time for SVI to complete assignments	0	1	2	3	4
8.	Providing additional time for SVI to complete examinations	0	1	2	3	4
9.	Place SVI on the first bench in classrooms	0	1	2	3	4
10.	Simultaneously say and write on black- or whiteboard	0	1	2	3	4
11.	Providing additional explanations individually for SVI on some difficult issues, in classrooms	0	1	2	3	4
12.	Providing additional explanations individually for SVI on some difficult issues, outside of classrooms	0	1	2	3	4
13.	I have prepared and implemented Individual Education Plan to support SVI	0	1	2	3	4
14.	I adapt teaching aids and material to accommodate needs of SVI.	0	1	2	3	4
15.	I use tactile and concrete materials to teach SVI	0	1	2	3	4
16.	I closely follow-up the participation of visually impaired students in class.	0	1	2	3	4
17.	I encourage cooperative learning among SVI and those sighted ones to support each other.	0	1	2	3	4
18.	I use different concrete examples to facilitate the way SVI understand the concept.	0	1	2	3	4
19.	I prepare alternative assignments/ activities for SVI considering their unique needs	0	1	2	3	4
20.	I modify lesson that are not aligned to the needs of SVI	0	1	2	3	4

No	Question (Practice)	Options				
		0	1	2	3	4
21.	I make additional preparation on some textbook contents so as to teach SVI	0	1	2	3	4
22.	I make sure that classrooms are convenient for SVI	0	1	2	3	4
23.	I use audio equipment to teach SVI	0	1	2	3	4
24.	Administering tests using Braille	0	1	2	3	4
25.	Minimizing copying from black board, for SVI	0	1	2	3	4
26.	Address SVI by their names to ask question or give instruction	0	1	2	3	4
27.	I allow SVI to submit their homework and classwork in various ways like through voice recording and oral presentations	0	1	2	3	4
28.	To support education of SVI, I use resources/ teaching aids found at the school inclusive education resource center	0	1	2	3	4

Part VI: School Support for Teachers

Instruction: What kind of support are you receiving from the school to facilitate education of children with visual impairment? The following table presents possible lists of support which you have to indicate the availability of the supports using the following rating:

0= Never 1= Yes, but not sufficient 2= Yes, in sufficient manner

No	Supports	Never	Yes, but not sufficient	Yes, in sufficient manner
1.	I have received on-job training on approaches to teach SVI			
2.	I have received support from special needs teacher to improve education of SVI			
3.	I have received training on Braille reading/ writing			
4.	I receive support from the itinerant teachers to facilitate inclusion of SVI			
5.	The school avails resources required to teach SVI			
6.	The school avails Braille Textbooks			
7.	The school avails Braille Reference books			
8.	The school avails Audio Recorders			
9.	The school avails audio recorded materials			

What are challenges you encounter while teaching children with visual impairment?

What do you suggest to improve inclusion of children with visual impairment in regular schools? _____

Addis Ababa University
College of Education and Behavioural Sciences
Department of Special Needs Education

**Tool 02: Survey Questionnaire for Primary & Secondary School
Students with Visual Impairment (Low vision & Blind)**

Dear Student:

This questionnaire is prepared to gather data for academic purpose. The study titled ‘**Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices**’ has main purpose of assessing teachers’ practice of inclusive education techniques in teaching students with visual impairment in regular primary and secondary schools of Addis Ababa. The information you will provide has significant value in the study. The inquiry is voluntary and confidential and your response will be used for the study purposes alone. The questionnaire will take 10 minutes to complete.

Thank you in advance for taking the time to participate in this study!

Ermias Kibreab (Phone: +251911149268)

The Researcher

Part 1: Background Information of Respondents

Read the following questions and provide your answer by encircling on appropriate options or in writing in the space provided.

Questions	Options		
1. Sex	1= Male 2= Female		
2. Grade Level	1. Grade 1 2. Grade 2 3. Grade 3 4. Grade 4	5. Grade 5 6. Grade 6 7. Grade 7 8. Grade 8	9. Grade 9 10. Grade 10 11. Grade 11 12. Grade 12
3. Age			
4. Visual status	1. Low vision 2. Blind		
5. Name of School			

Part 2: Available resources and Support Services at School Level for SVI

Dear student: which of the following resources and support services have you received at your school?

No	Supports	Yes, always	Yes, sometimes	Never	Remark
	Resources				
1.	Text books in Braille				
2.	Reference books in Braille				
3.	Slate and stylus				
4.	Braille Paper				
5.	Audio Recorders				
6.	Audio recorded materials				
7.	Talking calculator				
8.	White canes				
9.	Tactile materials				
10.	Abacus				
11.	Enlarged print copy for children with low vision				
12.	Magnifying glasses for children with low vision				
13.	Spectacles				
	Trainings				
14.	Orientation & Mobility Training				
15.	Braille Training				
16.	Computer Training				
17.	Abacus training				
18.	Assistance to use any residual vision (Low vision)				
19.	Training on Independent living skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, menstruation, care and identification of clothes, care of nails)				
	Other Supports				
20.	Additional time for completion of examinations				
21.	Additional time for completion of assignments				
22.	Taking examinations orally				
23.	Taking examinations using braille				
24.	Additional support from your school teachers in classrooms				
25.	Additional support from your school teachers outside the classroom				
26.	Peer support from sighted students in classroom				
27.	Peer support during break time to get around the school ground				
28.	Use of ground floor classrooms for SVI				
29.	Orientation on the school buildings				

Part 3: Other questions related to the teaching learning process

1. Do you read Braille?
 1. Yes
 2. No
2. Do you write using Braille?
 1. Yes
 2. No
3. Do you encounter Bullying from other students at the school/classroom?
 1. Yes , most of the time
 2. Yes, sometimes
 3. Never
4. Can you travel by your own around the school compound?
 1. Yes
 2. No
5. Can you travel by your own out of the school compound?
 1. Yes
 2. No
6. Can you get dressed by your own?
 1. Yes
 2. No
7. Is your classroom convenient for movement?
 1. Yes
 2. No
8. Is the toilets at your school convenient for you?
 1. Yes
 2. No
9. Do you feel valued in your classroom?
 1. Yes, Always
 2. Yes, Sometimes
 3. Not at all

Part 4: Teachers’ Practices in your classrooms

Dear students, the following table presents list of activities that teachers need to apply while teaching students with visual impairments. Just listen to the questions and rate how frequent your teachers apply each of them using the following rating scale

0= Never 1= Rarely 2= Sometimes 3= Often 4= Always

No	Question (Practice)	Options				
		0	1	2	3	4
1.	Teachers consider the presence of visually impaired students in class and adjust their teaching approach accordingly	0	1	2	3	4
2.	Teachers speak clearly and face the class so that we can listen clearly	0	1	2	3	4
3.	Teachers replace some exam questions to make it appropriate for students with visual impairments	0	1	2	3	4
4.	Teachers make interaction with students with visual impairments	0	1	2	3	4
5.	Teachers put students with visual impairments on the first bench in classrooms	0	1	2	3	4
6.	Teachers simultaneously say what they are writing on black- or whiteboard so that students with visual impairments could listen	0	1	2	3	4

No	Question (Practice)	Options				
		0	1	2	3	4
7.	Teachers provide additional explanations individually for students with visual impairments on some difficult issues, in classrooms	0	1	2	3	4
8.	Teachers provide additional explanations individually for students with visual impairments on some difficult issues, outside of classrooms	0	1	2	3	4
9.	Teachers adapt teaching aids and material to accommodate needs of students with visual impairments.	0	1	2	3	4
10.	Teachers use tactile and concrete materials to teach students with visual impairments	0	1	2	3	4
11.	Teachers closely follow-up the participation of students with visual impairments in classroom.	0	1	2	3	4
12.	Teachers encourage cooperative learning between students with visual impairments and sighted peers to support each other.	0	1	2	3	4
13.	Teachers use audio equipment to teach students with visual impairments	0	1	2	3	4
14.	Teachers minimize copying notes from black board, for students with visual impairments	0	1	2	3	4
15.	Teachers address students with visual impairments by their names when asking question or give instructions	0	1	2	3	4
16.	Teachers allow students with visual impairments to submit their homework and classwork in various ways like through voice recording and oral presentations	0	1	2	3	4
17.	To support education of students with visual impairments, Teachers use resources/ teaching aids found at the school inclusive education resource center	0	1	2	3	4

18. What challenges do you usually face while attending your education in inclusive schools/classrooms?_

19. Do you have any suggestion that helps to improve education of children with visual impairment in regular classrooms? _____

Addis Ababa University
College of Education and Behavioural Sciences
Department of Special Needs Education

Tool 03: Inclusive Education Resource Center Observation checklist

Part 1: Basic Data

School Name			
Sub-city			
Grade Level the school teaching			
Date of school observation			
Observer Name			
Number of pupils	Total	Girls	Boys
Number of pupils with visual impairment	Total	Girls	Boys

Part 2: Availability of Resources for SVI at schools

For observer: please observe the listed resources and decide on their availability. On the remark section, elaborate the resource and its usability

No	Resources	Available	Not-available	Remark
1.	Inclusive Education Resource room			
2.	Text books in Braille			
3.	Reference books in Braille			
4.	Slate and stylus			
5.	Braille Paper			
6.	Audio Recorders			
7.	Audio recorded materials			
8.	Talking calculator			
9.	Computer with JAWS			
10.	White canes			
11.	Magnifying glasses			
12.	Spectacles			
13.	Tactile materials			
14.	Large print materials			
15.	Abacus			

16.	Braille ruler			
17.	Braille watch			
18.	Talking watch			
19.	Snellen chart			
20.	Tactile Maps			
21.	Braille dictionary			
22.	Sound/Beep Ball			
23.	Head phone			

Part 3: Kind of Support Services Provided at School Level for SVI

No	Supports	Available	Not-available	Remark
1	Orientation & Mobility Training			
2	Braille Training for Teachers			
3	Braille Training for Students			
4	Computer Training for SVI			
5	Abacus training for SVI			
6	Training on Independent living skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, menstruation, care and identification of clothes, care of nails)			
7	Support from itinerant teachers			
8	Extra time for examination			
9	Extra time for assignments			
10	Oral examinations			
11	Peer support from sighted students in classroom			
12	Peer support during break time to get around the school ground			

Annex 4: Content Validity Index (CVI) Ratings by Panel of Experts

Instrument Item Relevance & Clarity Check Sheet

Validation of School Teachers Questionnaire on their Knowledge, Self-efficacy, Attitude and Practice with Regard to Teaching Children with Visual Impairment in Regular Classrooms

Tool 1: Survey Questionnaire for Primary & Secondary School Teachers

Part I: Knowledge

	Item (Knowledge)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	There is a need to modify curriculum materials for children with visual impairment	4	3	4	4	4	4	4	2	4	4	4	2
2.	SVI require additional support while they are learning in inclusive education setting	4	4	4	4	4	3	4	2	4	4	4	4
3.	SVI require changes in content of what to learn	4	3	4	4	4	2	4	1	3	4	4	4
4.	SVI require changes in expected performance level	4	3	4	4	4	2	4	1	3	4	4	4
5.	Once SVI are included in to regular classrooms, the is no need to provide additional support	4	2	4	4	3	3	4	4	2	4	3	4
6.	The teacher has to adapt instruction approaches for SVI attending in regular classrooms	4	3	3	4	4	4	4	4	3	4	4	4
7.	Schools has to make reasonable accommodations to meet the needs of SVI	4	4	4	4	4	3	4	4	2	4	4	4
8.	Accommodation and modification strategies help SVI to access the general curriculum	4	4	4	4	4	4	4	2	3	4	4	2

	Item (Knowledge)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
9.	SVI require additional time to complete assignments	4	2	4	4	4	3	4	4	4	4	4	3
10.	SVI require specialized materials to learn in inclusive education	4	4	3	4	4	2	4	2	3	4	4	2
11.	Tactile and concrete materials need to be used to teach SVI	4	4	3	4	4	4	4	3	3	4	4	4
12.	The teacher has to talk while teaching to support SVI	4	4	4	4	4	4	4	4	3	4	3	3
13.	Children with low vision has to get enlarged prints copy	4	4	3	4	4	4	4	4	1	4	4	4
14.	SVI require additional time to complete examinations	4	4	4	4	4	3	4	4	4	4	4	3
15.	Inclusive education is bringing children with disabilities, like with visual impairment to regular classroom without providing additional support	4	4	3	4	4	2	4	4	2	4	3	4
16.	SVI can study the same subjects as the other children without vision loss	4	2	4	4	4	2	4	4	3	4	4	4
17.	Individual Education Plan can help to assist children with visual impairment	4	4	4	4	4	3	4	4	3	4	4	3
18.	There are some unique strategies to assist children with visual impairment in regular classrooms	4	4	3	4	4	4	4	3	3	4	4	4
19.	SVI have additional needs in classrooms due to their disability	4	2	4	4	4	3	4	4	4	4	4	3
20.	The teacher has to adapt his/her teaching style when there is a student with visual impairment in class	4	4	4	4	4	3	4	4	3	4	4	3
21.	Teachers need to be aware of the needs of students with visual impairment	4	2	4	4	4	3	4	4	4	4	4	4
22.	Teaching children with visual impairment requires collaboration with special needs experts	3	4	4	4	4	4	3	4	3	4	4	4

	Item (Knowledge)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
23.	Instructional materials need to be contextualized to the needs of SVI	4	4	4	4	4	4	4	3	3	4	3	4

Part II: Attitude

	Item (Attitude)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	Assisting SVI in regular class takes time of other students	4	4	3	4	4	4	4	4	3	4	4	4
2.	Visually impaired students should learn separately in special class/ in a separate school.	4	4	3	4	4	3	4	4	3	4	4	3
3.	The inclusion of students with disabilities, like with visual impairment, in regular classroom is beneficial to other students.	4	3	4	4	4	4	4	4	4	4	4	4
4.	I would welcome the inclusion of visually impaired students in my class.	4	4	4	4	4	4	4	4	4	4	4	4
5.	I support inclusive teaching as a successful education system to address learners' needs.	4	4	4	4	4	4	4	4	4	4	4	4
6.	I believe that SVI attend education in regular class	4	4	3	4	2	1	4	4	3	4	4	3
7.	Teachers have responsibility to support children with visual impairment in regular classrooms	4	4	3	4	4	4	4	4	3	4	4	4
8.	The individual needs of children with disabilities CANNOT be addressed adequately by a regular education teacher.	4	4	3	3	4	3	4	4	3	4	4	2
9.	Inclusion is socially advantageous for children with special needs	4	4	4	2	4	2	4	4	3	4	4	3
10	Inclusion promotes self-esteem among children with special needs	4	4	4	4	1	2	4	4	3	4	4	3
11	SVI have the right to get textbooks in Braille format	4	4	4	4	4	2	4	4	4	4	4	4
12	It is the responsibility of the teacher to teach SVI in the way they understand	4	4	3	4	4	4	4	4	3	4	4	3
13	There is no need to provide additional support for SVI in regular classrooms	4	3	3	3	4	3	4	4	3	4	4	3
14	I feel that SVI should learn in special schools not in regular classrooms	4	3	3	2	1	3	4	3	3	4	4	3
15	When students with VI are in my classroom, I feel comfortable in working with special education teachers.	4	4	4	4	4	4	4	4	3	4	4	4
16	Regular education teachers should not be responsible to teach children with visual impairment	4	3	3	3	4	2	1	3	3	4	4	3

	Item (Attitude)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
17	I should only be responsible for teaching students who are not identified as having special needs.	4	3	4	3	4	2	2	3	3	4	3	3
18	I am willing to make necessary accommodations to SVI in regular classrooms	4	3	3	3	4	4	4	3	3	4	4	4
19	Special education teacher should be responsible to teach SVI	4	3	3	3	4	3	4	3	3	4	4	4
20	I have lower expectations on students with visual impairment	4	3	3	3	4	4	4	3	3	4	4	4

Part III: Self-efficacy

	Item (Self-efficacy)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	I have the capability to effectively teach students with visual impairment	4	3	3	4	4	4	4	3	3	4	4	4
2.	I am able to prepare individual education plan for SVI	4	4	3	4	4	3	4	3	3	4	4	3
3.	I am able to implement individual education plan for SVI	4	3	3	4	1	2	4	3	3	4	4	3
4.	I am equipped with accommodation strategies that helps to teach SVI	4	3	3	4	4	4	4	3	3	4	4	2
5.	I am equipped with modification strategies that helps to teach SVI	4	1	2	4	4	4	4	3	3	4	4	2
6.	I am able to read/write Braille	4	1	4	2	4	4	4	4	4	4	4	3
7.	I have the capability of differentiated instruction	4	4	3	3	4	3	4	4	2	4	4	2
8.	I have Action Research skill	4	4	3	4	2	2	4	4	3	4	4	4
9.	I have the capability to prepare resources/teaching aids that can serve the interest of SVI	4	3	3	3	4	4	4	3	3	4	4	4
10.	I have the capability to prepare examination suitable for SVI	4	4	3	4	4	4	4	4	3	4	4	2
11.	I have the capability to discipline students with VI in classrooms	4	4	2	4	4	4	4	4	3	4	4	3
12.	I have the capability of using assistive technology for SVI	4	2	4	4	4	4	4	4	3	4	4	2

Part IV: Practices

	Item (Practice)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	I consider the needs of visually impaired students in my class when preparing a lesson plan,	4	4	4	4	4	4	4	4	4	4	4	4
2.	I consider the presence of visually impaired students in class while teaching	4	4	3	4	4	4	4	4	3	4	4	4
3.	I speak clearly and face the class when I speak	4	4	4	4	4	4	4	2	4	4	4	3
4.	I appropriately use blackboard for children with low vision (clean, no shadow, no reflection, written neatly)	4	4	4	4	4	4	4	4	4	4	4	2
5.	I stand where glare is minimized	4	4	4	4	4	4	4	4	4	4	4	2
6.	I use large writing on the blackboard	4	4	4	4	4	4	4	4	4	4	4	2
7.	I ask SVI fewer questions on examinations	4	2	3	4	4	3	4	2	4	4	4	2
8.	I replace some exam questions to make it appropriate for SVI	4	4	4	4	4	4	4	4	4	4	4	4
9.	I make more interaction with SVI	4	4	3	4	4	3	4	4	3	4	4	3
10.	I provide additional time for SVI to complete assignments	4	2	4	4	4	4	4	4	4	4	4	4
11.	I provide additional time for SVI to complete examinations	4	4	4	4	4	4	4	4	4	4	4	4
12.	I allow SVI extra time for reading activities	4	4	4	4	4	4	4	4	4	4	4	4
13.	I place SVI on the first bench in classrooms	4	4	4	4	4	3	4	4	4	4	4	3
14.	I simultaneously say and write on black- or whiteboard	4	4	4	4	4	4	4	4	3	4	4	4
15.	I do modification of lessons for SVI	4	4	4	4	1	2	4	4	3	4	4	2
16.	I do instructions modifications for SVI	4	4	3	1	1	3	4	4	2	4	4	2
17.	I provide additional explanations individually for SVI on some difficult issues	4	4	3	4	4	4	4	4	3	4	4	4
18.	I adapt the syllabus and teaching material to accommodate needs of SVI.	4	4	4	4	4	3	4	4	3	4	3	2
19.	I closely follow-up the participation of visually impaired students in class.	4	4	3	4	4	4	4	4	3	4	4	4
20.	I encourage cooperative learning to make all students support each other.	4	4	4	4	4	2	4	4	4	4	4	4
21.	I make assistive technologies such as tape recorder, Braille accessible to visually impaired students.	4	3	4	2	4	2	4	3	4	4	4	4

	Item (Practice)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
22.	I use different concrete examples to facilitate the way SVI understand the concept.	4	4	4	4	4	4	4	4	4	4	4	4
23.	I allow low vision students to sit in front.	4	4	4	4	4	4	4	4	4	4	4	4
24.	I assign sighted students to help visually impaired students do different activities in class.	4	1	4	2	4	3	4	4	4	4	4	2
25.	I prepare alternative assignments/ activities to make visually impaired students work better.	4	4	4	4	4	3	4	4	4	4	4	3
26.	I do adaptation of materials to support SVI	4	2	4	2	4	4	4	2	4	4	4	2
27.	I use oral teaching-learning approach to support SVI	4	4	4	4	4	4	4	4	4	4	4	4
28.	I use tactile materials to support SVI	4	4	4	4	4	4	4	4	3	4	4	4
29.	I use audio equipment to teach SVI	4	4	4	4	4	4	4	4	4	4	4	4
30.	I actively engage SVI in my class	4	4	4	4	4	4	4	4	4	4	4	4
31.	I administer tests orally, for SVI	4	4	4	4	4	4	4	4	4	4	4	3
32.	I reduce assignments for SVI	4	3	3	4	4	2	4	3	4	4	4	3
33.	I make students with VI to learn fewer materials than are required by the textbook	2	2	3	4	4	2	4	3	4	4	3	3
34.	I place SVI with academically sound and helpful students	2	3	4	4	4	2	4	2	3	4	4	4
35.	I set substitute tasks of familiar scope and demand for SVI	4	4	4	4	4	4	4	4	3	4	3	4
36.	I try to minimize copying from black board, for SVI	4	4	4	4	4	4	4	4	4	4	3	4
37.	I address SVI by their names to ask question or give instruction	4	4	4	4	4	4	4	4	4	4	4	4

Part VI: School Support for Teachers

	Items (School Level Supports)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	I have received on-job training on approaches to teach SVI	4	4	4	4	4	4	4	4	4	4	4	4
2.	I have received support from special needs teacher to improve education of SVI	4	4	4	4	4	4	4	4	4	4	4	2
3.	The school avails resources required to teach SVI	4	4	4	4	4	4	4	4	4	4	4	4

	Items (School Level Supports)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
4.	I have received training on Braille reading/ writing	4	4	4	4	4	4	4	4	4	4	4	4
5.	I receive support from the itinerant teachers support	4	4	3	4	4	4	4	4	2	4	4	4
6.	The school avails student Textbooks in Braille format	4	4	4	4	4	4	4	4	4	4	4	4
7.	The school avails Reference books in Braille format	4	4	4	4	4	4	4	4	4	4	4	4
8.	The school avails tactile materials	4	2	4	4	2	1	4	4	4	4	4	4
9.	The school avails Audio Recorders	4	4	4	4	4	4	4	4	4	4	4	4
10.	The school avails audio recorded materials	4	4	4	4	4	4	4	4	4	4	4	4

Instrument Item Relevance & Clarity Check Sheet

Validation of Students Questionnaire on the Availability of Resources and Supports Services they are receiving at School

Tool 02: Survey Questionnaire for Primary & Secondary School Students with Visual Impairment (Low vision & Blind)

Part 1: Available resources and Support Services at School Level for SVI

	Items (Supports)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	Text books in Braille	4	4	4	4	4	4	4	4	4	4	4	4
2.	Reference books in Braille	4	4	4	4	4	4	4	4	4	4	4	4
3.	Slate, stylus and Braille Paper	4	4	4	4	4	4	4	4	4	4	4	4
4.	Audio Recorders	4	4	4	4	4	4	4	4	4	4	4	4
5.	Audio recorded materials	4	4	4	4	4	4	4	4	4	4	4	4
6.	Talking calculator	4	3	4	4	4	4	4	4	4	4	4	4
7.	White canes	4	4	4	4	4	4	4	4	4	4	4	4
8.	Tactile materials	4	4	4	4	4	4	4	4	3	4	4	4
9.	Abacus	4	4	4	4	4	4	4	4	4	4	4	4
10.	Orientation & Mobility Training	4	4	4	4	4	4	4	4	4	4	4	4
11.	Braille Training	4	4	4	4	4	4	4	4	4	4	4	4
12.	Computer Training	4	4	4	4	4	4	4	4	4	4	4	4
13.	Abacus training	4	4	4	4	4	4	4	4	4	4	4	4
14.	Self-protection training	4	4	4	4	4	4	4	4	4	4	4	4
15.	Search technique trainings	4	2	4	4	2	4	4	2	4	4	4	2
16.	Enlarged print copy for children with low vision	4	4	4	4	4	4	4	4	4	4	4	4
17.	Magnifying glasses for children with low vision	4	4	4	4	4	4	4	4	4	4	4	4

	Items (Supports)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
18.	Spectacles	4	3	4	4	4	4	4	3	4	4	4	4
19.	Assistance to use any residual vision (Low vision)	4	4	4	4	4	4	4	4	4	4	4	4
20.	Training on Independent living skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, menstruation, care and identification of clothes, care of nails)	4	4	4	4	4	4	4	4	4	4	4	4
21.	Audio materials	4	4	2	4	4	2	4	4	4	4	4	4
22.	Itinerant teachers support	2	4	4	2	4	4	4	4	4	4	4	4
23.	Additional time for completion of examinations	4	4	4	4	4	4	4	4	4	4	4	4
24.	Additional time for completion of assignments	4	2	4	4	4	4	4	4	4	4	4	4
25.	Taking examinations orally	4	2	4	4	4	4	4	4	4	4	4	4
26.	Additional support from your school teachers in classrooms	4	2	4	4	4	4	4	4	4	4	4	4
27.	Additional support from your school teachers outside the classroom	4	4	4	4	4	4	4	4	4	4	4	4
28.	Peer support from sighted students in classroom	4	4	4	4	4	4	4	4	4	4	4	4
29.	Peer support during break time to get around the school ground	4	4	4	4	4	4	4	4	4	4	4	4
30.	Use of ground floor classrooms for SVI	4	2	4	4	4	4	4	4	4	4	4	4
31.	Orientation on the school buildings	4	4	4	4	4	4	4	4	4	4	4	4

Instrument Item Relevance & Clarity Check Sheet

Validation of Inclusive Education Resource Center Observation Checklist on the Availability of Resources and Support Services for Children with Visual Impairment in Regular Schools

Tool 03: Inclusive Education Resource Center Observation checklist

Part 1: Availability of Resources for SVI at schools

	Items (Resources)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	Resource room	4	4	4	4	4	4	4	4	4	4	4	2
2.	Text books in Braille	4	4	4	4	4	4	4	4	4	4	4	4
3.	Reference books in Braille	4	4	4	4	4	4	4	4	4	4	4	4
4.	Slate, stylus and Braille Paper	4	4	4	4	4	4	4	4	4	4	4	4
5.	Audio Recorders	4	4	4	4	4	4	4	4	4	4	4	4
6.	Audio recorded materials	4	4	4	4	4	4	4	4	4	4	4	4
7.	Talking calculator	4	4	4	4	4	4	4	4	4	4	4	4
8.	Computer with JAWS	4	4	4	4	4	4	4	4	4	4	4	4
9.	White canes	4	4	4	4	4	4	4	4	4	4	4	4
10.	Magnifying glasses	4	4	4	4	4	4	4	4	4	4	4	4
11.	Spectacles	4	3	4	4	4	4	4	4	4	4	4	4
12.	Tactile materials	4	4	4	4	4	4	4	4	4	4	4	4
13.	Large print materials	4	4	4	4	4	4	4	4	4	4	4	4
14.	Abacus	4	4	4	4	4	4	4	4	4	4	4	4

Part 2: Kind of Support Services Provided at School Level for SVI

	Items (Supports)	Relevance Scale Rating by:						Clarity Scale Rating by:					
		E1	E2	E3	E4	E5	E6	E1	E2	E3	E4	E5	E6
1.	Orientation & Mobility Training	4	3	4	1	4	4	4	4	4	4	4	4
2.	Braille Training for Teachers	4	3	4	4	4	4	4	4	4	4	4	4
3.	Braille Training for Students	4	4	4	4	4	4	4	4	4	4	4	4
4.	Computer Training for SVI	4	4	4	4	4	4	4	4	4	4	4	4
5.	Abacus training for SVI	4	4	4	4	4	4	4	4	4	4	4	4
6.	Enlarged print copy for children with low vision	4	4	4	4	4	4	4	4	4	4	4	4
7.	Magnifying glasses for children with low vision	4	4	4	4	4	4	4	4	4	4	4	4
8.	Spectacles	4	3	4	4	4	4	4	4	4	4	4	4
9.	Assistance to use any residual vision (Low vision)	4	4	4	4	4	4	4	4	4	4	4	4
10.	Training on Independent living skills (dressing, eating, brushing teeth, hair care, bathing, toilet needs and use of the latrine, menstruation, care and identification of clothes, care of nails)	4	4	4	4	4	4	4	4	4	4	4	4
11.	Audio materials	4	4	4	4	4	4	4	4	4	4	4	4
12.	Itinerant teachers support	4	4	4	4	4	4	4	4	4	4	4	4
13.	Extra time for examination	4	4	4	4	4	4	4	4	4	4	4	4
14.	Extra time for assignments	4	3	3	4	4	4	4	3	4	4	4	4
15.	Oral examinations	4	3	3	4	4	4	4	3	3	4	4	4
16.	Peer support from sighted students in classroom	4	4	3	4	4	4	4	4	3	4	4	4
17.	Peer support during break time to get around the school ground	4	4	3	4	4	4	4	4	4	4	4	4
18.	Use of ground floor classrooms for SVI	4	3	4	4	4	4	4	4	4	4	4	4
19.	Orientation on the school buildings	4	4	4	4	4	4	4	4	4	4	4	4

Thank You Very Much for Your Time!!!

Annex 5: Psychometric Properties of Scales, Pilot Study Findings

Identifying Unreliable Items in Cronbach's Alpha, Knowledge

No	Item-Total Statistics				
	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
2.1	The teacher has to adapt his/her teaching style when there is a student with visual impairment in class	18.5224	3.405	.385	.500
2.2	Instructional materials need to be contextualized to the needs of SVI	18.5373	3.495	.179	.519
2.3	Learning assessment practices need to be adapted to the needs of SVI	18.5672	3.310	.309	.497
2.4	Textbook contents can be modified to accommodate special needs of SVI	18.6119	3.241	.281	.498
2.5	SVI require additional support while they are learning in inclusive education setting	18.5821	3.398	.185	.516
2.6	SVI require additional time to complete assignments	18.6716	3.194	.243	.503
2.7	Tactile and concrete materials need to be used to teach SVI	18.5522	3.403	.248	.508
2.8	The teacher has to talk while teaching to support SVI	18.5224	3.587	.095	.528
2.9	Children with low vision have to get enlarged prints copy	18.5075	3.708	-.096	.541
2.10	SVI require additional time to complete examinations	18.7463	3.071	.270	.496
2.11	Inclusion is socially advantageous for children with visual impairment	18.5075	3.587	.164	.524
2.12	Inclusion promotes self-esteem among children with visual impairment	18.5224	3.678	-.044	.541
2.13	SVI can study the same subjects as the other children without vision loss	19.1343	3.239	.118	.538
2.14	Individual Education Plan can help to assist children with visual impairment	18.6269	3.450	.086	.534
2.15	There are some unique strategies to assist children with visual impairment in regular classrooms	18.8209	3.119	.201	.515
2.16	SVI have unique needs in classrooms due to their disability	18.6866	3.249	.188	.516
2.17	Teaching children with visual impairment requires collaboration of school teachers with special needs experts	18.5075	3.648	.033	.533
2.18	SVI have the right to get textbooks in Braille format	18.5672	3.552	.056	.535
2.19	Classroom teacher has to consider unique needs of SVI when preparing lesson plans	18.5522	3.342	.320	.499
2.20	Classroom teacher has to plan alternative assignments for SVI as appropriate	18.5224	3.647	.002	.537
2.21	Classroom teacher has to plan alternative examination or exam items for SVI as appropriate	18.5373	3.525	.140	.523
2.22	The classroom teacher has responsibility to teach SVI by addressing their unique needs appropriately	18.5373	3.525	.140	.523

Overall Alpha: .532

Identifying Unreliable Items in Cronbach's Alpha, Self-efficacy

No	Item-Total Statistics				
	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
3.1	I have the capability to effectively teach students with visual impairment along with their sighted peers in regular classrooms	24.9403	33.936	.337	.794
3.2	I have the capacity to prepare and implement individual education plan for SVI	25.5075	29.345	.609	.755
3.3	I have the capacity to adapt textbook contents considering the special needs of SVI	24.9254	31.009	.617	.757
3.4	I have the capability to support SVI in regular classroom context	24.8507	32.099	.536	.768
3.5	I have the ability in preparing instructional materials/ resources that can serve the interest of SVI	25.5821	32.277	.436	.781
3.6	I have the capability to prepare appropriate examinations for SVI	24.4328	32.219	.583	.763
3.7	I have the ability to discipline students with VI in classroom	24.2090	34.804	.403	.785
3.8	I have the capability to use assistive technology for SVI	25.5970	31.032	.485	.775

Overall Alpha: .794

Identifying Unreliable Items in Cronbach's Alpha, Attitude

No	Item-Total Statistics				
	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
4.1	Assisting SVI in regular class takes time of other students (R)	60.0448	70.710	.194	.824
4.2	Visually impaired students should learn separately in special class/ in a separate school not in regular schools. (R)	59.7761	69.085	.219	.825
4.3	The inclusion of students with visual impairment in regular classroom is beneficial to other students.	59.8955	64.368	.604	.792
4.4	I would welcome the inclusion of visually impaired students in my class.	59.6418	64.779	.563	.795
4.5	I support inclusive teaching as a successful education system to address needs of SVI.	59.4179	65.762	.550	.797
4.6	Teachers have responsibility to support children with visual impairment in regular classrooms	59.0149	67.803	.486	.802
4.7	It must be the responsibility of the special needs teacher to address individual needs of children with visual impairment, not the regular education teacher. (R)	59.2537	67.889	.416	.806
4.8	There is no need to provide additional support for SVI in regular classrooms (R)	59.5075	69.436	.241	.821

No	Item-Total Statistics				
	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
4.9	When students with VI are in my classroom, I feel comfortable in working with special education teachers.	59.2239	70.267	.276	.815
4.10	I am willing to adapt my teaching strategy when there are SVI in my classrooms	59.1791	67.877	.564	.798
4.11	I am willing to adapt my instructional materials/ resources considering the special needs of SVI	59.1343	68.270	.615	.797
4.12	I feel that learning assessment practices need to be adapted to the needs of SVI	59.1194	68.682	.576	.799
4.13	I have the passion to modify some contents in the textbook to suit more for SVI	59.2239	67.722	.637	.796
4.14	I have good expectations on students with visual impairment with regard to achievement	59.4179	66.671	.560	.797
4.15	I have good expectations on students with visual impairment with regard to classroom activities	59.4030	68.184	.529	.800
4.16	I have good expectations on students with visual impairment with regard to tackling challenging exercises/assignments	59.5672	73.431	.145	.821
	Overall Alpha: .815				

Identifying Unreliable Items in Cronbach's Alpha, Practice

No	Item-Total Statistics				
	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
5.1	I consider the needs of visually impaired students in my class when preparing a lesson plan	77.9403	238.724	.307	.876
5.2	I consider the presence of visually impaired students in class and adapt my teaching strategies	77.3881	235.029	.524	.871
5.3	I speak clearly and face the class when I speak so that SVI can listen clearly	77.1045	234.156	.601	.870
5.4	I appropriately use blackboard so that children with low vision will not be challenged to follow (clean, no shadow, no reflection, written neatly)	77.1940	236.462	.540	.871
5.5	I stand where glare is minimized so that SVI won't be distracted	77.5821	235.277	.409	.873
5.6	I use large writing on the blackboard so children with low vision can follow easily	77.3284	232.194	.599	.869
5.7	I ask SVI fewer questions on examinations	79.2985	250.152	.015	.882
5.8	I replace some exam questions to make it appropriate for SVI	78.1194	230.925	.453	.872
5.9	I replace some assignments to make it appropriate for SVI	78.1940	230.765	.448	.872
5.10	I make interaction with SVI in classrooms	76.8955	248.156	.129	.878
5.11	I provide additional time for SVI to complete assignments	77.6866	230.067	.561	.869

No	Item-Total Statistics				
	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
5.12	I provide additional time for SVI to complete examinations	77.9104	229.416	.530	.870
5.13	I allow SVI extra time for reading activities	77.7015	232.819	.494	.871
5.14	I place SVI on the first bench in classrooms	77.1343	237.815	.465	.872
5.15	I simultaneously say and write on black- or whiteboard	77.2687	233.169	.566	.870
5.16	I provide additional explanations individually for SVI on some difficult issues	77.6269	231.722	.551	.870
5.17	I adapt teaching material/resources to accommodate needs of SVI.	78.0896	236.780	.451	.872
5.18	I closely follow-up the participation of visually impaired students in class.	76.9851	244.773	.264	.876
5.19	I pair SVI and their sighted peers for cooperative learning and supporting each other.	77.1045	243.034	.271	.876
5.20	I use different concrete examples to facilitate the way SVI understand concepts.	77.4925	231.314	.589	.869
5.21	I prepare alternative assignments/ activities/ tasks considering the special needs of SVI	78.1343	234.906	.496	.871
5.22	I arrange the classroom environment to be conducive for SVI	77.6567	239.623	.330	.875
5.23	I use oral teaching-learning approach to support SVI	77.2687	235.896	.493	.871
5.24	I use tactile materials to support SVI in classrooms/schools	78.8209	244.634	.150	.880
5.25	I use audio equipment to teach SVI in classrooms/schools	79.0597	234.602	.390	.874
5.26	I actively engage SVI in my class	77.0896	247.325	.135	.878
5.27	I administer tests orally, for SVI	77.2537	238.404	.399	.873
5.28	I reduce assignments for SVI	78.4030	242.184	.220	.878
5.29	I set substitute tasks of familiar scope and demand for SVI	78.4179	231.762	.503	.871
5.30	I try to minimize copying from black board, for SVI	77.9552	231.225	.470	.872
5.31	I address SVI by their names to ask question or give instruction	76.8507	243.765	.274	.876

Overall Alpha: .877

Annex 6: Data Collection Tools -Amharic Version

አዲስ አበባ ዩኒቨርሲቲ

የድህረ ምረቃ ፕሮግራም የልዩ ፍላጎት እና አካቶ ትምህርት ክፍል

መረጃ መሰብሰቢያ ቅጽ 01:- በአንደኛ እና ሁለተኛ ደረጃ ትምህርት ቤት መምህራን የሚሞላ መጠይቅ ውድ መምህር

አንደኛውን ነዎት? አባዘዎ ይህን መመሪያ ሳያነቡ መጠይቁን መሙላት አይጀምሩ

የዚህ መጠይቅ አላማ መምህራን የእይታ ችግር ያለባቸውን ተማሪዎች (በከፊል ማየት የሚችሉ እና ሙሉ ለሙሉ ማየት የማይችሉ) በአካቶ ትምህርት አሰጣጥ ዘዴ እንዴት አካተው እያስተማሩ እንደሆነ ለመዳሰስ ለተዘጋጀው ለዶክትሬት ዲግሪ ጥናት ማግኘት መረጃ ለመሰብሰብ ነው። ስለዚህ ከዚህ በታች የቀረቡትን ዝርዝር ጥያቄዎች በማንበብ የእርሶን እውነታ፤ ሀሳብ፤ እምነት ወይም ተግባር ያንጸባርቃል የሚሉትን ከተሰጡት አማራጮች መካከል መርጦ በማክበብ ወይም የ (✓) ወይም የ (x) ምልክት በማድረግ ስምምነትዎን አመልክቱ። መልስዎን በጽሁፍ የሚጠይቁ ጥያቄዎች ላይ በባዶ በታው ላይ ምላሽዎን ይጻፉ። **እርሶ የሚሰጡት ትክክለኛ መልስ ለጥናቱ ውጤት መሳካት ከፍተኛ ድርሻ ያለው መሆኑን በመገንዘብ የሚሰጡት ምላሽ በትክክል የእርሶን እውቀት፤ አመለካከት እና ተግባር የሚያንጸባርቁ እንዲሆኑ አደራ እላለሁ።** ስለዚህም ጥናቱ አላማውን እንዲያሳካ የእርሶ ትክክለኛ መልስ መስጠት በጣም ወሳኝ መሆኑን ተረድተው ጥያቄዎቹን በማንበብ የሚያምኑበትን እና የሚተገብሩትን ተግባራት የሚያንጸባርቁ ምላሽ እንዲመልሱ በድጋሚ አደራ እላለሁ። የሚሰጡት መረጃ ለጥናቱ አላማ ብቻ የሚውል ሲሆን ለማንም ተላልፎ አይሰጥም። በመጠይቁ ላይ ስም መጻፍ አያስፈልግም። መልስዎንም በሚስጥር ይያዛል። መጠይቁን ለመሙላት ወደ 20 ደቂቃ ይወስዳል።

በዚህ መጠይቅ ውስጥ የእይታ ችግር ያለባቸው ተማሪዎች ሲባል በከፊል ማየት የሚችሉ እና ሙሉ ለሙሉ ማየት የማይችሉትን ያጠቃልላል።

ስለትብብርዎት ከልብ አመሰግናለሁ! ለማንኛውም ጥያቄ በዚህ ያግኙኝ፡ ኤርምያስ ክብረአብ (0911-149268)

ክፍል አንድ:- የመላሽ አጠቃላይ መረጃ

እባክዎን ከታች የተዘረዘሩትን ጥያቄዎች ያንብቧቸውና ምላሽዎን በማክበብ ወይም በመጻፍ ያስፍሩ።

ቁ	ጥያቄ	ምርጫዎች/ምላሾች
1.	ጾታ	1. ወንድ 2. ሴት
2.	አሁን ያለዎት የትምህርት ደረጃ	1. ሰርትፊኬት 2. ዲፕሎማ 3. የመጀመርያ ዲግሪ 4. ሁለተኛ ዲግሪ 5. ሌላ: እባክዎን ይግለጹ
3.	አሁን ያለዎትን የትምህርት ደረጃ (የመጨረሻውን) የተማሩበት የከፍተኛ ትምህርት ተቋም ስም	
4.	የሚያስተምሩበት የትምህርት ቤቱ ስም	
5.	የእርስዎ ዕድሜ	1. ከ25 ዓመት በታች 2. ከ25-30 ዓመት 3. 31-35 ዓመት 4. 36-40 ዓመት 5. 41 ዓመትና ከዛ በላይ
6.	ያለዎት የማስተማር ልምድ በአመት	
7.	በከፍተኛ ትምህርት ተቋም የሰለጠኑት ለመምህርነት ሙያ ነው ወይ?	1. አዎ 2. አይደለም

ቁ	ጥያቄ	ምርጫዎች/ምላሾች
8.	ከላይ ለቀረበልዎ ጥያቄ ምላሽዎ አይደለም ከሆነ ለመምህርነት የሚረዱ እንደ PGDT ወይም ሌሎች ለመምህርነት የሚያስፈልጉ ስልጠናዎች/ትምህርቶች ተከታትለዋል?	1. አዎ፤ ተከታትያለሁ 2. አይ፤ አልተከታተልኩም
9.	በኮሌጅ/ዩኒቨርሲቲ ደረጃ የልዩ ፍላጎት ትምህርት/ አካቶ ትምህርት ትምህርቶችን (courses) ወስደዋል?	1. አዎ ወስጃለሁ 2. አልወሰድኩም
10.	በማስተማር ስራ ላይ እያሉ በልዩ ፍላጎት ትምህርት/ አካቶ ትምህርት ርዕሰ ላይ ስልጠና ወስደዋል ወይ?	1. አዎ ወስጃለሁ 2. አልወሰድኩም

ክፍል ሁለት:- የመምህራን እውቀት ስለ አካቶ ትምህርት እና በ አካቶ ትምህርት አሰጣጥ መንገዶች መመሪያ: ውድ መምህራን ከታች የተዘረዘሩትን ሀሳቦች በደንብ ያንብቧቸውና በመረዳትዎ ልክ እውነት ወይም ሀሰት ብለው ይለዩዎቻቸው። እባክዎትን የሚሰማዎትን ትክክለኛ ምላሽ ይሰጡ፤ በምላሽዎ ማንም አይገመገምዎትም።

ተ.ቁ	ጥያቄዎች	ምርጫ	
		እውነት	ሀሰት
1.	የመማሪያ መጻሕፍት ይዘቶችን የእይታ ችግር ያለባቸው ተማሪዎችን ልዩ ፍላጎት ባማከለ መልኩ ማስተማር ይገባል		
2.	መምህራን የማስተማር ዕቅድ (lesson plans) በሚያወጡበት ጊዜ የእይታ ችግር ያለባቸው ተማሪዎችን ልዩ ፍላጎት ግምት ውስጥ ማስገባት ይኖርባቸዋል		
3.	መምህራን የእይታ ችግር ላለባቸው ተማሪዎች እንደ አስፈላጊነቱ አማራጭ የቤት ስራ/ የክፍል ስራ (assignments) ሊሰጧቸው ይገባል		
4.	አንዳንድ የመማር መጻሕፍት ይዘቶችን የእይታ ችግር ላለባቸው ተማሪዎች ለማስተማር የመምህራንን ተጨማሪ ዝግጅት ይፈልጋሉ		
5.	አንዳንድ የመማር መጻሕፍት ይዘቶች የእይታ ችግር ያለባቸው ተማሪዎች እንደ ሌሎች የሚያዩ ጓደኞቻቸው በቀላሉ ሊረዱቸው ስለማይችሉ በሌላ ተመሳሳይ እና በቀላሉ ሊገነዘቡት በሚችሉት ይዘቶች መቀየር አለባቸው		
6.	የእይታ ችግር ያለባቸው ተማሪዎች በክፍል ውስጥ በሚኖሩበት ጊዜ መምህሩ የማስተማር ዘዴውን እነርሱን ባማከለ ሁኔታ ማመቻቸት/መቀየር አለበት		
7.	የግል ትምህርት እቅድ (Individual Education Plan) በመምህራን ተዘጋጅቶ መተግበር አይነ ስውራን ተማሪዎችን በትምህርታቸው ያግዛቸዋል።		
8.	የእይታ ችግር ያለባቸው ተማሪዎች ካለባቸው የእይታ ችግር አንጻር በክፍል ውስጥ ለመማር የተለየ ፍላጎት አላቸው		
9.	የእይታ ችግር ያለባቸው ተማሪዎችን እይታ ችግር ከሌለባቸው ተማሪዎች ጋር አጣምሮ ማስተማር እርስ በእርስ እንዲረዱ ያግዛል		
10.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር መምህራን ከልዩ ፍላጎት ባለሙያ ጋር በትብብር መስራት ይኖርባቸዋል		
11.	አካቶ ትምህር በሚሰጥበት ክፍል ውስጥ የሚገኙ የእይታ ችግር ያለባቸው ተማሪዎች ከመምህራን ተጨማሪ ድጋፍ ይፈልጋሉ		
12.	አይነ ስውራን ተማሪዎች የክፍል/የቤት ስራዎችን ለማጠናቀቅ ተጨማሪ ሰዓት ይፈልጋሉ		
13.	የማስተማሪያ ግብዓቶች የእይታ ችግር ያለባቸው ተማሪዎችን ፍላጎት ባማከለ ሁኔታ መቅረብ/ መዘጋጀት ይኖርበታል		
14.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር የሚዳሰሱ እና የሚነኩ ግብዓቶችን (Tactile and concrete materials) መጠቀም ያስፈልጋል		
15.	የእይታ ችግር ያለባቸው ተማሪዎች የመማሪያ መጻሕፍትን በብሬል ማግኘት አለባቸው		
16.	መምህራን የእይታ ችግር ላለባቸው ተማሪዎች እንደ አስፈላጊነቱ አማራጭ ፈተና ወይም የፈተና ጥያቄዎችን ሊያዘጋጁላቸው ይገባል		
17.	የእይታ ችግር ያለባቸው ተማሪዎችን ፈተናዎችን ለማጠናቀቅ ተጨማሪ ሰዓት ይፈልጋሉ		
18.	የእይታ ችግር ያለባቸው ተማሪዎች የክፍል እና የቤት ስራዎችን በተለያዩ መንገድ ለምሳሌ ድምጻቸውን በመቅዳት፤ በቃል ማቅረብ ይችላሉ		

ክፍል ሶስት:- የእይታ ችግር ያለባቸው ተማሪዎች ትምህርት እና የመምህራን አመለካከት መመሪያ:- ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ያንብቡና ከስር በተዘረዘሩት ምርጫዎች የእርስዎን ሀሳብ የሚወክለውን በማክበብ ምላሽን ይግለጹ። እባክዎትን ትክክለኛ ምላሽ ይሰጡ፤ አመሰግናለሁ።

1= በጣም አልሰማም 2= አልሰማም 3= አልወሰንኩም 4= እስማማለሁ 5= በጣም እስማማለሁ

ቁ	ጥያቄዎች (አመለካከት)	አማራጮች				
		1	2	3	4	5
1.	የእይታ ችግር ያለባቸው ተማሪዎችን በመደበኛው ክፍል ውስጥ መርዳት የሌሎች ተማሪዎችን ጊዜ ይሻማል	1	2	3	4	5
2.	የእይታ ችግር ያለባቸው ተማሪዎች መማር የሚገባቸው በመደበኛ ክፍል ሳይሆን ለአይነሰውራን ለብቻቸው በተዘጋጀ ልዩ ክፍል ውስጥ ወይም ልዩ ትምህርት ቤት መሆን አለበት	1	2	3	4	5
3.	በመደበኛ ክፍል ውስጥ የእይታ ችግር ያለባቸው ተማሪዎች መካተታቸው ለሌሎች ማየት ለሚችሉ ተማሪዎች ጠቀሜታ አለው	1	2	3	4	5
4.	በማስተምርበት ክፍል ውስጥ የእይታ ችግር ያለባቸው ተማሪዎች መካተታቸው ያስደስተኛል	1	2	3	4	5
5.	የአካቶ ትምህርት የማስተማር ዘዴ የእይታ ችግር ያለባቸው ተማሪዎችን ፍላጎት ከግንዛቤ ስለሚያስገባ እደግፈዋለሁ	1	2	3	4	5
6.	መምህራን በመደበኛ ክፍል ውስጥ የሚገኙ የእይታ ችግር ያለባቸው ተማሪዎችን የመደገፍ ሀላፊነት አለባቸው	1	2	3	4	5
7.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር፣ ከልዩ ፍላጎት መምህር ጋር አብሮ ለመስራት ዝግጁ ነኝ	1	2	3	4	5
8.	የእይታ ችግር ያለባቸው ተማሪዎች በማስተምርበት ክፍል ውስጥ ሲገኙ የማስተማር ዘዴዬን ለነሱ በሚመች መልክ ለማስተካከል ፈቃደኛ ነኝ	1	2	3	4	5
9.	የእይታ ችግር ያለባቸው ተማሪዎችን ልዩ ፍላጎት ከግንዛቤ በማስገባት፣ የማስተምርበትን የማስተማሪያ መሳሪያዎቼንና ግብዓቶቼን ለነሱ በሚመች መልክ ለማስተካከል ፈቃደኛ ነኝ	1	2	3	4	5
10.	የትምህርት ምዘና ዘዴዎች (learning assessment) የእይታ ችግር ያለባቸው ተማሪዎችን ሁኔታ ከግንዛቤ ማስገባት አለበት	1	2	3	4	5
11.	የመማሪያ መጻሕፍት ይዘቶች የእይታ ችግር ያለባቸው ተማሪዎች የሚስማሙ እንዲሆኑ እንደ ፍላጎታቸው ለማስተካከል መነሳሳቱ አለኝ	1	2	3	4	5
12.	አይነ ስውራን ተማሪዎች በፈተናዎች ላይ የተሻለ ውጤት ያመጣሉ ብዬ እምነቱ አለኝ	1	2	3	4	5
13.	አይነ ስውራን ተማሪዎች በክፍል ውስጥ ጥሩ ተሳትፎ/ እንቅስቃሴ ያረጋሉ ብዬ እምነቱ አለኝ	1	2	3	4	5
14.	አይነ ስውራን ተማሪዎች ከባድ የሚባሉ ክትምህርት ጋር የተያያዙ ተግባራትን በራሳቸው መፍታት/ማለፍ ይችላሉ ብዬ እምነቱ አለኝ	1	2	3	4	5
15.	በመደበኛ ክፍል ውስጥ የእይታ ችግር ያለባቸው ተማሪዎች መካተታቸው ማህበራዊ መቀሜታ አለው ብዬ አምናለሁ	1	2	3	4	5
16.	አይነ ስውራን ተማሪዎች የክፍል እና የቤት ስራዎችን በተለያየ መንገድ ለምሳሌ ድምጻቸውን በመቅዳት እና በቃል ቢያቀርቡ የመማር ማስተማር ሂደቱን አይረብሽም	1	2	3	4	5

ክፍል አራት:- የመምህራን በውስጣቸው የሚሰማቸው ችሎታ (self-efficacy)
ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ያንብቡና ከስር በተዘረዘሩት የመጠን መለኪያዎች የዕርስዎን ሀሳብ የሚወክለውን በማክበብ ምላሽዎን ይግለጹ።። እባክዎትን ትክክለኛ ምላሽዎን ይሰጡ፤ አመሰግናለሁ።።

1= በጣም አልሰማም 2= አልሰማም 3= አልወሰንኩም 4= እስማማለሁ 5= በጣም እስማማለሁ

ቁ	ጥያቄዎች	ምርጫዎች				
		1	2	3	4	5
1.	በመደበኛ ክፍል ውስጥ የሚገኙ የእይታ ችግር ያለባቸው ተማሪዎችን ማየት ከሚችሉ ተማሪዎች ጋር ቀላቅሎ በተገቢው ሁኔታ ለማስተማር ችሎታው አለኝ	1	2	3	4	5
2.	ለአይነ ስውራን ተማሪዎች የግል ትምህርት እቅድ (Individual Education Plan) የማዘጋጀትና የመተግበር ችሎታው አለኝ	1	2	3	4	5
3.	የመማሪያ መጻሕፍት ይዘቶችን የእይታ ችግር ላለባቸው ተማሪዎች በሚሆን መልክ ለማስተማር የሚረዱ ችሎታ አለኝ	1	2	3	4	5
4.	በመደበኛ ክፍል ውስጥ የእይታ ችግር ያለባቸው ተማሪዎችን ለመርዳት የሚያስችል ችሎታ አለኝ	1	2	3	4	5
5.	የእይታ ችግር ያለባቸው ተማሪዎችን ሊጠቅሙ የሚችሉ የማስተማሪያ ቁሳቁስ/ ግብዓት ለማዘጋጀት የሚያስችል ችሎታ አለኝ	1	2	3	4	5
6.	ለአይነ ስውራን ተማሪዎች እግባብ የሆኑ ፈተናዎችን የማዘጋጀት ችሎታው አለኝ	1	2	3	4	5

ቁ	ጥያቄዎች	ምርጫዎች				
		1	2	3	4	5
7.	አይነ ስውራን ተማሪዎች በክፍል ውስጥ ህግ በማክበር የሚጠበቅባቸውን እንዲያከናውኑ ለማድረግ ችሎታው አለኝ	1	2	3	4	5
8.	አይነ ስውራን ተማሪዎችን ለማገዝ የሚረዱ የቴክኖሎጂ ግብአቶችን ለመጠቀም ችሎታው አለኝ	1	2	3	4	5

ክፍል አምስት:- አይነስውራን ተማሪዎች እና የመምህራን ተግባር
መመሪያ:- በአካቶ ትምህርት ውስጥ የታቀዱ የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር ከታች ከተዘረዘሩት ተግባራት/ልምዶች ውስጥ የትኞቹን ይከተሏቸው/ይጠቀሙባቸዋል፤ አባዎቻቸው ምላሽዎን በሚከተሉት አማራጮች በሚሰማሙበት ቦታ ላይ ያስፍሩ። **አባዎችን የሚሰማዎትን ትክክለኛ ምላሽ ይሰጡ፤ በምላሽዎ ማንም አይገመገምዎትም ።**

0 =በፍጹም 1 =አልፎ አልፎ 2= አንዳንድ ጊዜ 3=አብዛኛውን ጊዜ 4= ሁል ጊዜ

ቁ	ጥያቄዎች	ምርጫዎች				
		0	1	2	3	4
1.	የትምህርት ዕቅድ (lesson plan) በማዘጋጀት ወቅት በክፍል ውስጥ የሚገኙ የእይታ ችግር ያለባቸው ተማሪዎችን ፍላጎት ከግምት ውስጥ አስገባለሁ	0	1	2	3	4
2.	በክፍል ውስጥ የእይታ ችግር ያለባቸው ተማሪዎች መኖራቸውን ከግንዛቤ በማስገባት የማስተማር ዘዴዎን ለአንሱም እንዲሆን አደርጋለሁ/አመቻቻለሁ	0	1	2	3	4
3.	በክፍል ውስጥ ሳስተምር የእይታ ችግር ያለባቸው ተማሪዎች በጥራት/በደንብ እንዲሰሙኝ ወደ ተማሪዎች ዞሬ በግልጽ እናገራለሁ/አስረዳለሁ	0	1	2	3	4
4.	በክፍል ማየት የሚችሉ ተማሪዎች (low vision) ለመከታተል እንዳይቸገሩ ጥቁር ሰሌዳውን ተገቢ በሆነ መልኩ እጠቀማለሁ (በንጹህ ሰሌዳ፣ ሰሌዳው ምንም ነገር ሳይሸፍነው፤ ሰሌዳው ላይ ለማየት በሚቻል መልኩ ተጽፎበት)	0	1	2	3	4
5.	በክፍል ማየት የሚችሉ ተማሪዎች (low vision) በክፍል ውስጥ ለመከታተል እንዳይቸገሩ ነጻ-በራቅ በሌለበት በኩል እቆማለሁ	0	1	2	3	4
6.	ፈተና ሳወጣ አንዳንድ ለአይነስውራን ተማሪዎች አግባብ ያልሆኑ ጥያቄዎችን በሌላ ተገቢ በሆኑ ጥያቄዎች እንዲተኩ አደርጋለሁ	0	1	2	3	4
7.	አይነ ስውራን ተማሪዎች የክፍል/የቤት ተግባር (assignments) እንዲያጠናቅቁ ተጨማሪ ሰዓት እሰጣቸዋለሁ	0	1	2	3	4
8.	የእይታ ችግር ያለባቸው ተማሪዎች ፈተናቸውን እንዲያጠናቅቁ ተጨማሪ ሰዓት እሰጣቸዋለሁ	0	1	2	3	4
9.	የእይታ ችግር ያለባቸው ተማሪዎች በክፍል ውስጥ ከፊት ወንበር እንዲቀመጡ አደርጋለሁ	0	1	2	3	4
10.	በሰሌዳ ላይ ስጽፍ የምጽፈውን ነገር አይነስውራን እንዲሰሙት እየጻፍኩት ያለውን ጽሁፍ በቃሌም እለዋለሁ	0	1	2	3	4
11.	ለአይነ ስውራን ተማሪዎች በከበዳቸው ርዕስ ዙሪያ በግላቸው በክፍል ውስጥ ተጨማሪ ገለጻ አደርጋለሁ	0	1	2	3	4
12.	ለአይነ ስውራን ተማሪዎች በከበዳቸው ርዕስ ዙሪያ በግላቸው ከክፍል ውጪ ተጨማሪ ገለጻ አደርጋለሁ	0	1	2	3	4
13.	አይነስውራን ተማሪዎችን ለመርዳት የግል ትምህርት እቅድ (Individual Education Plan) ለአዎንዳንዳቸው አዘጋጅቼ እየተገበርኩኝ ነው።	0	1	2	3	4
14.	የእይታ ችግር ያለባቸው ተማሪዎችን ከግንዛቤ በማስገባት የማስተማሪያ ቁሳቁሶችን/ ግብዓቶችን ለነሱም ምቹ አደርጋለሁ	0	1	2	3	4
15.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር የሚዳሰሱ እና የሚነኩ ግብዓቶችን (Tactile and concrete materials) እጠቀማለሁ	0	1	2	3	4
16.	የእይታ ችግር ያለባቸው ተማሪዎች በክፍል ውስጥ በንቃት መሳተፋቸውን እከታተላለሁ	0	1	2	3	4
17.	በትብብር ለመማርና ለመረዳት ያመች ዘንድ የእይታ ችግር ያለባቸው ተማሪዎች ማየት ከሚችሉ ከአቻ ጓደኞቻቸው ጋር እንዲጣመሩ አደርጋለሁ	0	1	2	3	4
18.	አይነ ስውራን ተማሪዎች ሃሳቦችን በቀላሉ መረዳት እንዲችሉ (understand concepts) የተለያዩ ተጨባጭ ምሳሌዎችን አቀርባለሁ	0	1	2	3	4
19.	የአይነ ስውራን ተማሪዎችን ልዩ ፍላጎት ከግንዛቤ በማስገባት ማየት ከሚችሉት ተማሪዎች የለተየ ተለዋጭ የክፍል/የቤት ተግባር (assignments) አዘጋጃለሁ	0	1	2	3	4

ቁ	ጥያቄዎች	ምርጫዎች				
		0	1	2	3	4
20.	አንዳንድ የመማሪያ መጻሕፍት ይዘቶች ለአይነ ስውራን ተማሪዎች የማይስማሙ ከሆነ ሌላ ተመጣጣኝ እና ተለዋጭ ይዘት አዘጋጃለሁ	0	1	2	3	4
21.	አንዳንድ የመማርያ መጻሕፍት ይዘቶችን ለአይነ ስውራን ተማሪዎች ለማስተማር ተጨማሪ ዝግጅት አደርጋለሁ	0	1	2	3	4
22.	የማስተምርበት የክፍል ሁኔታ ለየአይነ ስውራን ተማሪዎች ምቹ እንዲሆን አደርጋለሁ	0	1	2	3	4
23.	የአይታ ችግር ያለባቸው ተማሪዎችን ለመርዳት የድምጽ ቅጂ ግብዓቶች አጠቀማለሁ	0	1	2	3	4
24.	የአይታ ችግር ያለባቸው ተማሪዎች ፈተናዎችን በብሬይል እንዲፈተኑ አደርጋለሁ	0	1	2	3	4
25.	የአይታ ችግር ያለባቸው ተማሪዎች ከጥቁርሰሌዳ ላይ በብዛት እንዳይገለብጡ አጥራለሁ	0	1	2	3	4
26.	የአይታ ችግር ያለባቸው ተማሪዎችን ጥያቄ ለመጠየቅ ወይም መመርያ ለመስጠት ስፈልግ ስማቸውን በመጥራት እንዲሳተፉ አደርጋለሁ	0	1	2	3	4
27.	የአይታ ችግር ያለባቸው ተማሪዎች የክፍል እና የቤት ስራዎችን በተለያዩ መንገድ (ድምጻቸውን በመቅዳት እና በቃል) እንዲያቀርቡ አደርጋለሁ	0	1	2	3	4
28.	የአይታ ችግር ያለባቸው ተማሪዎችን ለመርዳት ከትምህርት ቤቱ ውስጥ ከሚገኘው የአካቶ ትምህርት ማዕከል መርጃ ቁሳቁሶችን አጠቀማለሁ	0	1	2	3	4

ክፍል ስድስት- ከትምህርት ቤት ለመምህራን የሚደረግ ድጋፍን በተመለከተ

መመሪያ:- የእይታ ችግር ያለባቸው ተማሪዎችን ትምህርት ለማመቻቸት እንዲረዳዎ ከትምህርት ቤቱ ምን ዓይነት ድጋፎችን ያገኛሉ? ከታች የተዘረዘሩትን የድጋፍ ዓይነቶች በማንበብ በምን ያህል ጊዜ እንደሚያገኙ በሚከተሉት አማራጮች ምላሽዎን ይግለጹ።

0 =በፍጹም አላገኘሁም 1=አዎ፤ በቂ ባይሆንም አግኝቻለሁ 2 =አዎ፤ በበቂ ሁኔታ አግኝቻለሁ

ተ.ቁ	ድጋፎች/አገልግሎቶች	በፍጹም አላገኘሁም	አዎ; በቂ ባይሆንም አግኝቻለሁ	አዎ; በበቂ ሁኔታ አግኝቻለሁ
1.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር የሚያስችሉ የስራ ላይ ስልጠናዎችን			
2.	የእይታ ችግር ያለባቸው ተማሪዎችን ትምህርት በተመለከተ ክልዩ ፍላጎት መምህራን እገዛ/ድጋፍ አገኛለሁ			
3.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማስተማር የሚያስፈልጉ እንደ ብሬል፤ የሚዳሰሱ እቃዎች የመሳሰሉ ግብዓቶችን ትምህርት ቤቱ ያቀርባል/ ያዘጋጃል			
4.	የብሬል መጻፍና ማንበብ ስልጠና ወስጃለሁ			
5.	የእይታ ችግር ያለባቸው ተማሪዎችን ለማገዝ የሚያስችሉኝን ድጋፍ ከተዘዋዋሪ መምህር (itinerant teachers) አግኝቻለሁ			
6.	ትምህርት ቤቱ የመማሪያ መጻሕፍትን በብሬል ያቀርባል			
7.	ትምህርት ቤቱ የማጣቀሻ መጻሕፍትን በብሬል ያቀርባል			
8.	ትምህርት ቤቱ የእይታ ችግር ያለባቸው ተማሪዎችን ለመርዳት የድምጽ መቅጃ መሳሪያዎችን ያቀርባል			
9.	ትምህርት ቤቱ የእይታ ችግር ያለባቸው ተማሪዎችን ለመርዳት በድምጽ የተቀዱ ግብዓቶችን ያቀርባል			

➤ አይነ ስውራን ተማሪዎችን በመደበኛው ክፍል ውስጥ በምታስተምሩበት ወቅት የሚያጋጥሟቸው ዋና ዋና ችግሮች ምንድን ናቸው? _____

➤ አይነ ስውራን ተማሪዎችን በመደበኛው ክፍል ውስጥ በተገቢው መንገድ ለማስተማር መስተካከል ያለባቸውን ነገሮች ግለጽ/ጫ? _____

አዲስ አበባ ዩኒቨርሲቲ የድህረ ምረቃ ፕሮግራም የልዩ ፍላጎት/አካቶ ትምህርት ክፍል

መረጃ መሰብሰቢያ ቅጽ 02: በአንደኛ ደረጃ ትምህርት ቤት ውስጥ ለሚማሩ አይነ ሰውራን (በከፊል ማየት ለሚችሉ እና ሙሉ ለሙሉ ማየት የማይችሉ) ተማሪዎች የተዘጋጀ መጠይቅ

ውድ ተማሪዎች

የዚህ መጠይቅ አላማ መምህራን አይነሰውራን ተማሪዎችን (በከፊል ማየት የሚችሉ እና ሙሉ ለሙሉ ማየት የማይችሉ) በአካቶ ትምህርት አሰጣጥ ዘዴ እንዴት አካተው እያስተማሩ እንደሆነ ለመዳሰስ ለተዘጋጀው ለዶክትሬት ዲግሪ ጥናት ማሟያ መረጃ ለመሰብሰብ ነው። ስለዚህ ከዚህ በታች የቀረቡትን ዝርዝር ጥያቄዎች መረጃ ሰብሳቢው በሚያነብልህ/ሽ ጊዜ የምትስማማበትን/ሚባትን ምላሽ በመግለጽ ትብብር አድርግ/ረ። መረጃ ሰብሳቢውም የአንተን/ቺን መልስ ከተሰጡት አማራጮች መካከል መርጦ በማክበብ ወይም የ (✓) (x) ምልክት በማድረግ ስምምነትህን /ሽን/ ያሰፍራል። መልስህን/ሽን በጽሁፍ የሚጠይቁ ጥያቄዎች ላይ በባዶ ቦታው ላይ ምላሹ እንዲጻፍ ለመረጃ ሰብሳቢው ግለጽ/ጪ። አንተ/ቺ የምትሰጠው/ጪው ትክክለኛ መልስ ለጥናቱ ውጤት መሳካት ከፍተኛ ድርሻ ያለው መሆኑን በመገንዘብ ትክክለኛ መልስ በመስጠት ትብብር እንድታደርግ/ረ አደራ እላለሁ። ስለዚህም ጥናቱ አላማውን እንዲያሳካ የአንተ/ቺ ትክክለኛ መልስ መስጠት በጣም ወሳኝ መሆኑን በመረዳት ጥያቄዎቹን ለሚያነብላቸው ሰው ትክክለኛ መልስ እንድትመልሱ በድጋሚ አደራ እላለሁ። የሚሰጡት መረጃ ለጥናቱ አላማ ብቻ የሚውል ሲሆን ለማንም ተላልፎ አይሰጥም። በመጠይቁ ላይ ስም መጻፍ አያስፈልግም። መልስዎትም በሚሰጥር ይያዛል።

ስለትብብርህ/ሽ ከልብ አመሰግናለሁ! ኤርምያስ ክብረአብ (0911-149268)

ክፍል አንድ: የመላሾች አጠቃላይ መረጃ

ለመረጃ ሰብሳቢ: እባክህ/ሽ ከታች የተዘረዘሩትን ጥያቄዎች ያንብቡላቸውና ምላሻቸውን በማክበብ ወይም በመጻፍ ያስፍሩ።

ቁ	ጥያቄ	ምርጫዎች		
1.	ጾታ	1= ወንድ 2=ሴት		
2.	የክፍል ደረጃ	1.አንደኛ ክፍል 2.ሁለተኛ ክፍል 3.ሶስተኛ ክፍል 4.አራተኛ ክፍል	5.አምስተኛ ክፍል 6.ስድስተኛ ክፍል 7. ሰባተኛ ክፍል 8.ስምንተኛ ክፍል	9. ዘጠነኛ ክፍል 10. አስረኛ ክፍል 11. አስራ አንደኛ ክፍል 12. አስራ ሁለተኛ ክፍል
3.	ዕድሜ (በሙሉ ቁጥር)			
4.	የዕይታ ሁኔታ	1=በከፊል ማየት እችላለሁ 2=ሙሉ ለሙሉ ማየት አልችልም		
5.	የትምህርት ቤቱ ስም			

ክፍል ሁለት: በትምህርት ቤት ውስጥ ለአይነሰውራን ተማሪዎች (በከፊል ማየት ለሚችሉ እና ሙሉ ለሙሉ ማየት የማይችሉ) የሚረዱ ግብዓቶችና የድጋፍ አገልግሎቶች ስለመኖራቸው

መመሪያ: ውድ ተማሪዎች በትምህርት ቤታችሁ ከታች የተዘረዘሩትን ግብዓቶችና የድጋፍ አገልግሎቶች መኖራቸውን እና ማግኘታችሁን በሚከተሉት አማራጮች ምላሻችሁን ግለጹ።

- 1=ድጋፍ/አገልግሎቱ በበቂ ሁኔታ አለ 2= በቂ ባይሆንም በተወሰነ ደረጃ ድጋፍ/አገልግሎቱ አለ
3=በዚህ ረገድ ምንም ድጋፍ የለም

ተ.ቁ	ድጋፎች/አገልግሎቶች	በበቂ ሁኔታ አለ	በቂ ባይሆንም በተወሰነ ደረጃ አለ	በፍጹም የለም	አስተያየት
	ግብዓቶች				

ተ.ቁ	ድጋፎች/አገልግሎቶች	በበቂ ሁኔታ አለ	በቂ ባይሆንም በተወሰነ ደረጃ አለ	በፍጹም የለም	አስተያየት
1.	በብሬል የታተሙ መማሪያ መጻሕፍት				
2.	በብሬል የታተሙ ማጣቀሻ መጻሕፍት				
3.	የብሬል መጻፍያ ስሌት እና ስታይለስ				
4.	የብሬል ወረቀት				
5.	የድምጽ መቅጃ				
6.	በድምጽ ቅጂ የተሰናዱ ግብዓቶች				
7.	ድምጽ ያለው የሂሳብ ስሌት መስሪያ ማሽን (Talking calculator)				
8.	ነጭ በትር (White canes)				
9.	በእጅ የሚዳሰሱ ማስተማሪያዎች				
10.	የሂሳብ መማሪያ አባከስ				
11.	በክሬል ለማየት ለሚችሉ ተማሪዎች በጉልህ የሚታዩ የህትመት ውጤቶች				
12.	በክሬል ለማየት ለሚችሉ ተማሪዎች አጉልቶ ለማንበብ የሚጠቅሙ ማጉያዎች (Magnifying glasses)				
13.	በክሬል ለማየት ለሚችሉ ተማሪዎች መነጻጸር				
ስልጠናዎች					
14.	ከቦታ ቦታ ያለሌሎች እርዳታ ለመንቀሳቀስ የሚረዳ ስልጠና (Orientation & Mobility)				
15.	የብሬል ስልጠና				
16.	የኮምፒውተር ስልጠና				
17.	የሂሳብ መማሪያ አባከስ ስልጠና				
18.	በክሬል ለማየት ለሚችሉ ያላቸውን እይታ እንዴት በአግባቡ መጠቀም እንዳለባቸው ስልጠና				
19.	የቀን ተቀን ኑሮን በራስ ለመምራት የሚያገለግሉ ስልጠናዎች (መልበስ፣ መመገብ፣ጥርስ መሰረሽ፣ የአልባሳት አለባበስ፣ የጥፍር ንጽህና፣ ወዘተ)				
ሌሎች ድጋፎች					
20.	ፈተና ለመስራት ተጨማሪ ሰዓት				
21.	የቤት/የክፍል ስራዎችን ለመስራት ተጨማሪ ሰዓት				
22.	ፈተናዎችን በቃል መፈተን				
23.	ፈተናዎችን በብሬይል መፈተን				
24.	በክፍል ውስጥ ከመምህራን ተጨማሪ ድጋፎችን ማግኘት				
25.	ከክፍል ውጪ ከመምህራን ተጨማሪ ድጋፎችን ማግኘት				
26.	በክፍል ውስጥ ማየት ከሚችሉ ከአቻ ተማሪዎች ድጋፍ ማግኘት				
27.	በእረፍት ሰዓት በትምህርት ቤቱ ጊቢ ውስጥ ለመንቀሳቀስ ማየት ከሚችሉ ከአቻ ተማሪዎች ድጋፍ ማግኘት				
28.	ለአይነስውራን ተማሪዎች ምድር ላይ የሚገኙ ክፍሎችን መጠቀም				
29.	ስለትምህርት ቤቱ ህንፃ ሁኔታ ገለጻ ማግኘት (ቢሮዎች፣ መጻፍቻ ቤቶች፣ ላይብረራ...የት እንዳሉ ገለጻ ማግኘት)				

ክፍል ሶስት:- መማር ማስተማሩን የተመለከቱ ተጨማሪ ጥያቄዎች
ውድ ተማሪዎች: ቀጥሎ የተዘረዘሩትን ጥያቄዎች የሚስማሙበትን ምላሽ ለጠያቂው ይግለጹ።

1. ብሬል ማንበብ ትችላለህ/ያለሽ?
 1. አዎ አነባለሁ
 2. አላነብም
2. ብሬል መጻፍ ትችላለህ/ትችያለሽ?
 1. አዎ
 2. አልችልም
3. በትምህር ቤት ወይም በክፍል ውስጥ በሌሎች ተማሪዎች ማሸማቀቅ ይደርስብህል/ሻል?
 1. አዎ አብዛኛውን ጊዜ
 2. አዎ፣ አንዳንድ ጊዜ
 3. በፍጹም

4. በትምህርት ቤት ጊቢ ውስጥ ብቻህን/ብቻሽን ትንቀሳቀሳለህ/ሽ?
 1. አዎ እንቀሳቀሳለሁ
 2. አልንቀሳቀስም
5. ከትምህርት ቤት ጊቢ ውጪ ብቻህን/ብቻሽን ትንቀሳቀሳለህ/ሽ?
 1. አዎ እንቀሳቀሳለሁ
 2. አልንቀሳቀስም
6. ልብስህን/ሽን በራስህ/ሽ መልበስ ትችላለህ/ሽ?
 1. አዎ እችላለሁ
 2. አልችልም
7. በምትማርበት/ሪበት ክፍል ውስጥ ለመንቀሳቀስ ለአንተ/ቺ ምቹ ናቸው ወይ?
 1. አዎ
 2. አይ
8. በትምህርት ቤት ሽንት ቤት ለመጠቀም ለአንተ/ቺ ምቹ ናቸው ወይ?
 1. አዎ
 2. አይ
9. በትምህርት ቤት የምሳ መመገቢያ ቦታ ለአንተ/ቺ ምቹ ናቸው ወይ?
 1. አዎ ያስቸግረኛል
 2. አያስቸግረኝም
10. የምትማርበት/ሪበት ክፍል ውስጥ ተገቢውን ክብር ታገኛለህ/ኒያለሽ ወይ?
 1. አዎ ሁልጊዜ
 2. አዎ አንዳንድ ጊዜ
 3. ተሰምቶኝ አያውቅም

ክፍል አራት:- የመምህራን ተግባር በትምህርት አሰጣጡ ላይ

ተማሪዎች ቀጥሎ የተዘረዘሩት ተግባራት መምህራን በክፍል ውስጥ መፈጸም ያለባቸው ናቸው። ስለዚህም ጥያቄውን ካዳመጥክ/ሽ በሃላ በሚከተሉት አማራጮች የሚሰማሙበትን ያሳውቁ። ስለዚህም የሚከተሉትን ተግባራት መምህራን ምን ያህል ጊዜ እንደሚፈጽሙ የሚጠይቅ ነው። አማራጮቹም፡

0 = በፍጹም 1 = አልፎ አልፎ 2 = አንዳንድ ጊዜ 3 = አብዛኛውን ጊዜ 4 = ሁል ጊዜ

ቁ	ጥያቄዎች	ምርጫዎች				
		0	1	2	3	4
1.	መምህራን በክፍል ውስጥ አይነስውራን ተማሪዎች መኖራችንን ከግንዛቤ በማስገባት የማስተማር ዘዴያቸውን ለአኛ ምቹ ያደርጋሉ	0	1	2	3	4
2.	መምህራን በክፍል ውስጥ ሲያስተምሩ አይነስውራን ተማሪዎች በጥራት/በደንብ እንዲሰሙባቸው ወደ ተማሪዎች ዘረው በግልጽ ይናገራሉ/ያስረዳሉ	0	1	2	3	4
3.	መምህራን ፈተና ሲያወጡ አንዳንድ ለአይነስውራን ተማሪዎች አግባብ ያልሆኑ ጥያቄዎችን በሌላ ተገቢ በሆኑ ጥያቄዎች ይተካሉ	0	1	2	3	4
4.	መምህራን በክፍል ውስጥ ከአይነስውራን ተማሪዎች ጋር መስተጋብር (interaction) ያደርጋሉ	0	1	2	3	4
5.	መምህራን አይነስውራን ተማሪዎች በክፍል ውስጥ ከፊት ወንበር እንዲቀመጡ ያደርጋሉ	0	1	2	3	4
6.	መምህራን በሰሌዳ ላይ ሲጽፉ የሚጽፉት ነገር አይነስውራን እንዲሰሙት እየጻፉት ያለውን ጽሁፍ በቃልም ይሉታል	0	1	2	3	4
7.	መምህራን ለአይነስውራን ተማሪዎች በከበዳቸው ርዕስ ዙሪያ በግላቸው <u>በክፍል ውስጥ</u> ተጨማሪ ገለጻ ያደርጋሉ	0	1	2	3	4
8.	መምህራን ለአይነስውራን ተማሪዎች በከበዳቸው ርዕስ ዙሪያ በግላቸው <u>ከክፍል ውጪ</u> ተጨማሪ እገዛ ያደርጋሉ	0	1	2	3	4
9.	መምህራን የአይነስውራን ተማሪዎችን ፍላጎት ለማካተት የማስተማሪያ ቁሳቁሶችን/ ግብዓቶችን ለአኛም ምቹ ያደርጋሉ	0	1	2	3	4
10.	መምህራን አይነስውራን ተማሪዎችን ለማስተማር የሚዳሰሱ እና የሚነኩ ግብዓቶችን (Tactile and concrete materials) ይጠቀማሉ	0	1	2	3	4
11.	መምህራን አይነስውራን ተማሪዎች በክፍል ውስጥ በንቃት መሳተፋቸውን ይከታተላሉ	0	1	2	3	4
12.	መምህራን በትብብር ለመማርና ለመረዳዳት ያመች ዘንድ አይነስውራን ተማሪዎች ማየት ከሚችሉ ከአቻ ጓደኞቻቸው ጋር እንዲጣመሩ ያደርጋሉ	0	1	2	3	4
13.	መምህራን የአይነስውራን ተማሪዎችን ለመርዳት የድምጽ ቅጂ ግብዓቶች ይጠቀማሉ	0	1	2	3	4
14.	መምህራን አይነስውራን ተማሪዎች ከጥቁርሰሌዳ ላይ በብዛት እንዳይገሉብጡ ያደርጋሉ	0	1	2	3	4
15.	መምህራን አይነስውራን ተማሪዎችን ጥያቄ ለመጠየቅ ወይም መመርያ ለመስጠት ሲፈልጉ ስማችንን በመጥራት ያሳትፋሉ	0	1	2	3	4

ቁ	ጥያቄዎች	ምርጫዎች				
		0	1	2	3	4
16.	መምህራን አይነሰውራን ተማሪዎች የክፍል እና የቤት ስራዎችን በተለያዩ መንገድ (ድምጻችንን በመቅዳት እና በቃል) እንድናቀርብ ያደርጋሉ	0	1	2	3	4
17.	አይነሰውራን ተማሪዎችን ለመርዳት መምህራን ከአካቶ ትምህርት ማዕከል መርጃ ቁሳቁሶችን ይጠቀማሉ	0	1	2	3	4

18. በአካታች ትምህርት ቤት/ ክፍል ውስጥ ስትማር/ሪ በአብዛኛው ምን አይነት ችግሮች ያጋጥሙህል/ሻል? _____

19. ማየት የተሳናቸውን ተማሪዎች የተሻለ ትምህርት እንዲያገኙ መስተካከል ያለባቸውን ነገሮች ብትገልጽልኝ/ጪልኝ _____

አዲስ አበባ የኒቨርሲቲ የድህረ ምረቃ ፕሮግራም የልዩ ፍላጎት/አካቶ ትምህርት ክፍል

መረጃ መሰብሰቢያ ቅጽ 03: የትምህርት ቤት ምልክታ ማድረጊያ (Inclusive Education Resource Center)

ክፍል አንድ:- አጠቃላይ መረጃ

የትምህርት ቤቱ ስም			
ክፍለ ከተማ			
የትምህርት ቤቱ ደረጃ (አንደኛ ደረጃ፣ መለስተኛ ወይስ ሁለተኛ ደረጃ)			
ምልክታ የተካሄደበት ቀን			
ምልክታውን ያደረገው ሰው ስም			
በትምህርት ቤቱ የተማሪዎች ብዛት	አጠቃላይ	ሴቶች	ወንዶች
ሙሉ ለሙሉ ማየት የማይችሉ ተማሪዎች ብዛት	አጠቃላይ	ሴቶች	ወንዶች
በከፊል ማየት የሚችሉ ተማሪዎች ብዛት	አጠቃላይ	ሴቶች	ወንዶች
በትምህርት ቤቱ የልዩ ፍላጎት ባለሙያ አለ ወይ?	1. አለ 2. የለም	ካለ፣ ብዛት.....	
የልዩ ፍላጎት ባለሙያዎች ካሉ መደበኛ ክፍለ ጊዜ ይዘው ያስተምራሉ ወይ?	1. አዎ፣ ያስተምራሉ 2. አይ፣ አያስተምሩም		

ክፍል ሁለት:- ለአይነት ወይም ተማሪዎች የሚሆኑ ግብዓቶች ስለመኖራቸው

መመሪያ:- ከታች የተዘረዘሩት ግብዓቶች በትምህርት ቤቱ ውስጥ መገኘታቸውን ይመልከቱ። ስለግብዓቶቹ የጥቅም ሁኔታ ያልዎትን አስተያየት በማስታወሻ ስፍራ ላይ ያስፍሩ።

ተ.ቁ.	ግብዓቶች	አለ	የለም	ማስታወሻ (በቂ መሆን አለመሆኑ፣ ጊዜው ያለፈበት ከሆነ፣ ተማሪዎች ይጠቀሙታል/ አይጠቀሙትም...)
1.	አካቶ ትምህርት ሪሶርስ ክፍል			
2.	ብብሬል የተዘጋጁ መማሪያ መጻሕፍት			
3.	ብብሬል የተዘጋጁ ማጣቀሻ መጻሕፍት			
4.	የብሬል መጻፍያ ሰሌዳ፣ ስታይለስ			
5.	የብሬል ወረቀት			
6.	የድምጽ መቆጃ			
7.	በድምጽ ቅጂ የተሰናዱ ግብዓቶች			
8.	ድምጽ ያለው የሂሳብ ስሌት መስሪያ ማሽን (Talking calculator)			
9.	ጃውስ የተጫነበት ኮምፒውተር			
10.	ነጭ በትር (White canes)			
11.	በከፊል ለማየት ለሚችሉ ተማሪዎች አጉልቶ ለማንበብ የሚጠቀሙ ማጉያዎች (Magnifying glasses)			
12.	በከፊል ለማየት ለሚችሉ ተማሪዎች መነጻር			
13.	በእጅ የሚዳሰሱ ማስተማሪያዎች			

ተ.ቁ.	ግብዓቶች	አለ	የለም	ማስታወሻ (በቂ መሆን አለመሆኑ፤ ጊዜው ያለፈበት ከሆነ፤ ተማሪዎች ይጠቀሙታል/ አይጠቀሙትም...)
14.	በከፊል ለማየት ለሚችሉ ተማሪዎች በጉልህ የሚታዩ የህትመት ውጤቶች			
15.	የሂሳብ መማርያ አባከስ			
16.	የብሬይል ማስመርያ			
17.	የብሬይል ሰዓት			
18.	ድምጽ ያለው ሰዓት (talking watch)			
19.	የአይን አይታ መመርመርያ ቻርት (Snellen Chart)			
20.	በአጅ የሚዳሰስ ካርታ			
21.	ዲክሽነሪ ቡብሬይል			
22.	ባለ ድምጽ ኳስ			
23.	የማድመጫ መሳርያ (head phone)			

ክፍል ሶስት:- ለአይነሰውራን ተማሪዎች በትምህርት ቤት ደረጃ የሚደረጉ የድጋፍ አይነቶች

ተ.ቁ.	ድጋፎች	አለ	የለም	ማስታወሻ
1.	ከቦታ ቦታ ያለሌሎች እርዳታ ለመንቀሳቀስ የሚረዳ ስልጠና (Orientation & Mobility)			
2.	የመምህራን የብሬል ስልጠና			
3.	የተማሪዎች የብሬል ስልጠና			
4.	ለአይነሰውራን ተማሪዎች የኮምፒውተር ስልጠና			
5.	ለአይነሰውራን ተማሪዎች የሂሳብ መማርያ አባከስ ስልጠና			
6.	የቀን ተቀን ኑሮን በራስ ለመምራት የሚያገለግሉ ስልጠናዎች (ልብስ፣ መመገብ፣ጥርስ መቦረሽ፣ የጸጉር እንክብካቤ፣ ሰውነትን መታጠብ፣ ሸንት ቤት አጠቃቀም፣ የወርአበባ ፣ የጥፍር ንጽህና...)			
7.	ድጋፍ ከተዘዋዋሪ መምህር (itinerant teachers)			
8.	ፈተና ለመስራት ተጨማሪ ሰዓት			
9.	የቤት/የክፍል ስራዎችን ለመስራት ተጨማሪ ሰዓት			
10.	ፈተናዎችን በቃል መፈተን			
11.	በክፍል ውስጥ ከአቻ ማየት ከሚችሉ ተማሪዎች ድጋፍ ማግኘት			
12.	በአረፍት ሰዓት በትምህርት ቤቱ ጊቢ ውስጥ ለመንቀሳቀስ ከአቻ ማየት ከሚችሉ ተማሪዎች ድጋፍ ማግኘት			

ለተመልካች: በአጠቃላይ ትምህርት ቤቱ ለአይነሰውራን ተማሪዎች የሚያደርገው ድጋፍ እና የትምህርት ቤቱ ለአይነሰውራን ተማሪዎች ምቹ መሆኑን እንዴት ይገልጻል_____

Annex 7: Multiple Comparisons of constructs against the levels of ‘Training received on SNE/IE’

a) Descriptive Statistics

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Knowledge	No training received	81	16.3333	2.01866	.22430	15.8870	16.7797	10.00	18.00
	Training received at pre-service training	98	15.8367	2.26444	.22874	15.3827	16.2907	8.00	18.00
	Training received at in-service training	43	15.9767	2.42495	.36980	15.2305	16.7230	8.00	18.00
	Training received at pre-and in-service training	199	16.8442	1.73230	.12280	16.6021	17.0864	10.00	18.00
	Total	421	16.4228	2.03700	.09928	16.2277	16.6179	8.00	18.00
Self-Efficacy	No training received	81	23.2222	8.45725	.93969	21.3522	25.0923	9.00	45.00
	Training received at pre-service training	98	26.2347	9.01980	.91114	24.4263	28.0430	9.00	45.00
	Training received at in-service training	43	26.3488	8.93864	1.3631	23.5979	29.0997	11.00	43.00
	Training received at pre-and in-service training	199	29.1256	8.97917	.63652	27.8704	30.3809	9.00	45.00
	Total	421	27.0333	9.13699	.44531	26.1579	27.9086	9.00	45.00
Attitude	No training received	81	59.3086	10.96545	1.2183	56.8840	61.7333	25.00	78.00
	Training received at pre-service training	98	62.0714	8.87978	.89699	60.2911	63.8517	40.00	78.00
	Training received at in-service training	43	62.2791	11.38153	1.7356	58.7764	65.7818	31.00	80.00
	Training received at pre-and in-service training	199	64.6080	10.13032	.71812	63.1919	66.0242	22.00	80.00
	Total	421	62.7601	10.31974	.50295	61.7715	63.7487	22.00	80.00
Practice	No training received	81	67.4444	28.56090	3.1734	61.1291	73.7598	3.00	110.00
	Training received at pre-service training	98	77.5102	21.45446	2.1672	73.2089	81.8116	23.00	112.00
	Training received at in-service training	43	74.3023	21.38372	3.2609	67.7214	80.8833	33.00	112.00
	Training received at pre-and in-service training	199	77.9095	21.60392	1.5314	74.8895	80.9296	7.00	112.00
	Total	421	75.4347	23.31929	1.1365	73.2007	77.6686	3.00	112.00

b) ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Knowledge	Between Groups	78.206	3	26.069	6.531	.000
	Within Groups	1664.535	417	3.992		
	Total	1742.741	420			
Self-Efficacy	Between Groups	2130.306	3	710.102	8.991	.000
	Within Groups	32933.229	417	78.977		
	Total	35063.534	420			
Attitude	Between Groups	1700.907	3	566.969	5.495	.001
	Within Groups	43027.862	417	103.184		
	Total	44728.770	420			
Practice	Between Groups	6867.522	3	2289.174	4.309	.005
	Within Groups	221523.931	417	531.232		
	Total	228391.454	420			

c) Multiple Comparisons, Tukey HSD


Dependent Variable	(I) Any training on SNE	(J) Any training on SNE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Knowledge	No training received	Training received at pre-service training	.49660	.30002	.349	-.2773	1.2705
		Training received at in-service training	.35659	.37698	.780	-.6158	1.3290
		Training received at pre-and in-service training	-.51089	.26332	.213	-1.1901	.1683
	Training received at pre-service training	No training received	-.49660	.30002	.349	-1.2705	.2773
		Training received at in-service training	-.14001	.36546	.981	-1.0827	.8027
		Training received at pre-and in-service training	-1.00749*	.24656	.000	-1.6435	-.3715
	Training received at in-service training	No training received	-.35659	.37698	.780	-1.3290	.6158
		Training received at pre-service training	.14001	.36546	.981	-.8027	1.0827
		Training received at pre-and in-service training	-.86748*	.33599	.050	-1.7341	-.0008
	Training received at pre-and in-service training	No training received	.51089	.26332	.213	-.1683	1.1901
		Training received at pre-service training	1.00749*	.24656	.000	.3715	1.6435
		Training received at in-service training	.86748*	.33599	.050	.0008	1.7341
Self-Efficacy	No training received	Training received at pre-service training	-3.01247	1.33450	.110	-6.4547	.4298
		Training received at in-service training	-3.12661	1.67681	.245	-7.4518	1.1986
		Training received at pre-and in-service training	-5.90341*	1.17128	.000	-8.9246	-2.8822
	Training received at pre-service training	No training received	3.01247	1.33450	.110	-.4298	6.4547
		Training received at in-service training	-.11414	1.62559	1.000	-4.3072	4.0789
		Training received at pre-and in-service training	-2.89093*	1.09670	.043	-5.7198	-.0621
	Training received at in-service training	No training received	3.12661	1.67681	.245	-1.1986	7.4518
		Training received at pre-service training	.11414	1.62559	1.000	-4.0789	4.3072
		Training received at pre-and in-service training	-2.77679	1.49450	.248	-6.6317	1.0782
	Training received at pre-and in-service training	No training received	5.90341*	1.17128	.000	2.8822	8.9246
		Training received at pre-service training	2.89093*	1.09670	.043	.0621	5.7198
		Training received at in-service training	2.77679	1.49450	.248	-1.0782	6.6317

Dependent Variable	(I) Any training on SNE	(J) Any training on SNE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Attitude	No training received	Training received at pre-service training	-2.76279	1.52538	.269	-6.6974	1.1718
		Training received at in-service training	-2.97043	1.91664	.409	-7.9143	1.9734
		Training received at pre-and in-service training	-5.29940*	1.33880	.001	-8.7527	-1.8461
	Training received at pre-service training	No training received	2.76279	1.52538	.269	-1.1718	6.6974
		Training received at in-service training	-.20764	1.85810	1.000	-5.0005	4.5852
		Training received at pre-and in-service training	-2.53661	1.25356	.181	-5.7701	.6968
	Training received at in-service training	No training received	2.97043	1.91664	.409	-1.9734	7.9143
		Training received at pre-service training	.20764	1.85810	1.000	-4.5852	5.0005
		Training received at pre-and in-service training	-2.32897	1.70826	.523	-6.7353	2.0773
	Training received at pre-and in-service training	No training received	5.29940*	1.33880	.001	1.8461	8.7527
		Training received at pre-service training	2.53661	1.25356	.181	-.6968	5.7701
		Training received at in-service training	2.32897	1.70826	.523	-2.0773	6.7353
Practice	No training received	Training received at pre-service training	-10.06576*	3.46109	.020	-18.9934	-1.1381
		Training received at in-service training	-6.85788	4.34887	.393	-18.0754	4.3597
		Training received at pre-and in-service training	-10.46510*	3.03775	.004	-18.3007	-2.6295
	Training received at pre-service training	No training received	10.06576*	3.46109	.020	1.1381	18.9934
		Training received at in-service training	3.20788	4.21604	.872	-7.6671	14.0828
		Training received at pre-and in-service training	-.39934	2.84434	.999	-7.7361	6.9374
	Training received at in-service training	No training received	6.85788	4.34887	.393	-4.3597	18.0754
		Training received at pre-service training	-3.20788	4.21604	.872	-14.0828	7.6671
		Training received at pre-and in-service training	-3.60722	3.87605	.788	-13.6052	6.3907
	Training received at pre-and in-service training	No training received	10.46510*	3.03775	.004	2.6295	18.3007
		Training received at pre-service training	.39934	2.84434	.999	-6.9374	7.7361
		Training received at in-service training	3.60722	3.87605	.788	-6.3907	13.6052

*. The mean difference is significant at the 0.05 level.

Annex 8: IRB Approval Letter

አዲስ አበባ ዩኒቨርሲቲ
የልዩ ፍላጎትና አካቶ ጎብካፊ

 Addis Ababa University
Department of Special Needs
and Inclusive Education

Ref: CEBS_IRC_01/2022
Date: October 14, 2022

Department of Special Needs and Inclusive Education Institutional Review Committee (SNIE-IRC)
Certificate of Protocol Approval
IRC Approval Reference No. CEBS_IRC/01/2022

To: Ermias Kibreab and Dr. Belay Hagos
Principal Investigator and supervisor

From: Alemayehu Teklemariam (Ph.D.),
Chairperson SNIE_IRC

Re: Approval of a Research Project for the PhD Dissertation

Protocol Title	Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of factors affecting Teachers' Practices
Protocol Number	IRC-01
Principal Investigator	Ermias Kibreab
Institute	Department of Special Needs and Inclusive Education, College of Education and Behavioral Studies, Addis Ababa University
Study Site(s)	Addis Ababa
Study Approach	Mixed Research Design
Decision	The study meets all the principle of ethics and the research are offered this ethical clearance
Date the approval was issued	October 14/2022
Date the approval expires	October 13/2023

Alemayehu Teklemariam (Ph.D.)
Chairperson, SNIE-IRC

Please contact me for any other support

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alemayehutm@yahoo.com

Annex 9: Qualitative Data Collection Tools

Addis Ababa University

College of Education and Behavioural Sciences

Department of Special Needs Education

KII Guide for Inclusive Education Resource Center Coordinator

Dear Respondent:

This KII guide is prepared to gather data for academic purpose. The study entitled ‘Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices’ has main purpose of assessing teachers’ practice of inclusive education techniques in teaching students with visual impairment in regular primary and secondary schools of Addis Ababa. The information you will provide has significant value in the study. The inquiry is voluntary and confidential and your response will be used for the study purposes alone. The interview will take 25 minutes to complete.

Thank you in advance for taking the time to participate in this study!

Ermias Kibreab (Phone: +251911149268)

The Researcher

Part I: Background Information of Respondents

Read the following questions and provide your answer by encircling on appropriate options or in writing in the space provided.

Question	Options
1. Sex	1= Male 2= Female
2. Your Role at the school	
3. Current educational qualification	1= Certificate 2=Diploma 3= BA/B.Ed/BSc 4= MA/MSc/Med 5= Others
4. Name of School	
5. Are you SNE/IE specialist?	1=Yes 2=No
6. Do you teach?	1= Yes 2= No
7. If Yes to the above question, what subject are you teaching?	

Part II: Interview Questions

1. How do you see the education of SVI at your school? (Probe for strength, limitations, gaps)

2. Why do schools fail to fulfil basic resources required for students with visual impairment? (Probe for: audio recorders, magnifying glass, Braille papers, slate/stylus, etc.)
3. What is the reason for students with visual impairment not to take ICT courses at your school?
4. Students and teachers reported that they were not receiving training on areas like Braille, Mobility and Orientation (for students), etc. Why is that so? Any challenge in this regard?
5. Why do you think is that some teachers prefer the special schools to educate students with visual impairment over the regular schools?
6. Any concern or suggestion?

KII Guide for Primary School Students with Visual Impairment (Low vision & Blind)

Dear Student:

This KII guide is prepared to gather data for academic purpose. The study entitled ‘Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices’ has main purpose of assessing teachers’ practice of inclusive education techniques in teaching students with visual impairment in regular primary and secondary schools of Addis Ababa. The information you will provide has significant value in the study. The inquiry is voluntary and confidential and your response will be used for the study purposes alone. The interview will take 25 minutes to complete.

Thank you in advance for taking the time to participate in this study!

Ermias Kibreab (Phone: +251911149268)

The Researcher

Part 1: Background Information of Respondents

Read the following questions and provide your answer by encircling on appropriate options or in writing in the space provided.

Question	Options		
1. Sex	1= Male 2= Female		
2. Grade Level	1. Grade 1 2. Grade 2 3. Grade 3 4. Grade 4	5. Grade 5 6. Grade 6 7. Grade 7 8. Grade 8	9. Grade 9 10. Grade 10 11. Grade 11 12. Grade 12
3. Age			
4. Visual status	1. Low vision 2. Blind		
5. Name of School			

Part II: Interview Questions

1. How do you see the education of SVI at your school? (Probe for strength, limitations, gaps)
2. What kind of support are you receiving in classrooms/schools from your teacher/school? (Probe for: resources/materials, pedagogy, examination setting, exam administration, IEP, modifying contents,)
3. Have you received any training at your school? (Probe for Mobility & Orientation, Braille, Computer, ...)
4. What challenges do you encounter in the inclusive education settings?

Addis Ababa University
College of Education and Behavioural Sciences
Department of Special Needs Education

KII Guide for School Teachers

Dear Respondent:

This KII guide is prepared to gather data for academic purpose. The study entitled ‘Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices’ has main purpose of assessing teachers’ practice of inclusive education techniques in teaching students with visual impairment in regular primary and secondary schools of Addis Ababa. The information you will provide has significant value in the study. The inquiry is voluntary and confidential and your response will be used for the study purposes alone. The interview will take 25 minutes to complete.

Thank you in advance for taking the time to participate in this study!

Ermias Kibreab (Phone: +251911149268)

The Researcher

Part I: Background Information of Respondents

Read the following questions and provide your answer by encircling on appropriate options or in writing in the space provided.

Question	Options
1. Sex	1= Male 2= Female
2. Current educational qualification	1= Certificate 2=Diploma 3= BA/B.Ed/BSc 4= MA/MSc/Med 5= Others
3. Name of School	
4. Grade level you teach	
5. Subject you teach	
6. Years of teaching experience	

Part II: Interview Questions

1. How do you see the education of SVI at your school? (Probe for strength, limitations, gaps)
2. What are the challenges you encounter in teaching children with visual impairment?
3. Do you prefer special schools for students with visual impairment or inclusive education setting? Why do you think are some teachers prefer special schools for such students?
4. Do you make any considerations for students with visual impairment on examinations and assignments? If yes, what are they? If No, why not?
5. Why do you think is that some teachers prefer the special schools to educate students with visual impairment over the regular schools?
6. Any concern or suggestion?

Annex 10: Consent and Assent Forms

Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices.

Consent Form for Teachers

Dear Teacher,

My name is Ermias Kibreab, a PhD student at the department of Special Needs and Inclusive Education, Addis Ababa University. I am conducting a research titled "Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices." The aim of the study is to explore factors that affect teachers' practices of inclusive instruction strategies to teach students with visual impairments in inclusive classrooms and also assess challenges such students face in regular schools.

Your participation in this study will be very crucial to understand factors that affect your effort in inclusion of students with visual impairment in regular schools. Your participation in the study in the form of filling in a self-administered questionnaire is voluntary and you have the right to withdraw from this study anytime. Your personal information and responses to the survey questionnaire will be confidential and will only be used for the study purpose. You will be treated anonymously, that is your name will not be mentioned in the study. . If you have questions about the research, you can ask me any time. Do you have any question now?

Yours sincerely,

Ermias Kibreab

Tel: +251911149268

email: ermi2000@gmail.com

Are you willing to take part in this study?

Yes No

Dear Data collector,

If the teacher agrees to participate in the study, you can hand over the survey questionnaire and collect the completed one within the agreed time frame. If the teacher declines to take part in the study, kindly express your appreciation and move on to the next one.

Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices.

Consent Form for Participation of Students with Visual Impairments

Dear Principal,

My name is Ermias Kibreab, a PhD student at the department of Special Needs and Inclusive Education, Addis Ababa University. I am conducting a research titled "Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices." The aim of the study is to explore factors that affect teachers' practices of inclusive instruction strategies to teach students with visual impairments in inclusive classrooms and also assess challenges such students face in regular schools.

The participation of students with visual impairments in this study will be very crucial to understand challenges they are facing in regular schools. The study will assess the responses of students with visual impairments on available resources and supports they are receiving from their school and teachers. Their participation in the study in the form of responding to a questionnaire administered by a trained interviewer is voluntary and they have the right to withdraw from this study anytime. Their personal information and responses to the survey questionnaire will be confidential and will only be used for the study purpose. They will be responding to the survey questions during their free periods, like in maths period, so that the study won't affect their regular teaching learning process. The students will be treated anonymously, that is their names will not be mentioned in the study. . If you have questions about the research, you can ask me any time. Do you have any question now?

Yours sincerely,

Ermias Kibreab

Tel: +251911149268

email: ermi2000@gmail.com

Are you willing to allow your students with visual impairments to take part in this study?

Yes No

Dear Data collector,

If the school principal gives consent for his students to participate in the study, you can start administering the survey questionnaire with the student without affecting their class schedule. If the school principal declines to give consent, kindly express your appreciation and move on to the next one.

Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices.

Child Assent Form

Dear Learner,

My name is Ermias Kibreab. I am PhD student at the department of Special Needs and Inclusive Education, Addis Ababa University. I am conducting a research titled "Inclusion of Children with Visual Impairments in Regular Schools of Addis Ababa: Analysis of Factors Affecting Teachers' Practices." The aim of the study is to explore factors that affect teachers' practices of inclusive instruction strategies to teach students with visual impairments in inclusive classrooms and also to assess challenges such students face in regular schools.

I am inviting you to participate in the study through responding to a survey questionnaire, which has close and open questions. Your teachers know I am talking with you about the study. Your participation in this study will be very crucial to understand issues related to the inclusion of students with visual impairments in regular schools and address existing challenges in the future. I will be asking you about the status of your inclusion and challenges you are facing in regular schools. Your participation in the study is voluntary and you have the right to withdraw from this study anytime. Your personal information and responses to the survey questionnaire will be confidential and will only be used for the study purpose. You will be treated anonymously, that is your name will not be mentioned in the study. If you have questions about the research, you can ask me any time. Do you have any question now?

Yours sincerely,

Ermias Kibreab

Tel: +251911149268

email: ermi2000@gmail.com

Are you willing to take part in this study?

Yes No

Dear Data collector,

If the student agrees to participate in the study, you can start administering the survey questionnaire after arranging convenient time and place. If the student declines to take part in the study, kindly express your appreciation and move on to the next one.

በጉለሌ ክፍለ ከተማ አስተዳደር
ትምህርት ጽ/ቤት የትምህርት ስራ
አመራር መረጃ ስርዓት ቡድን



WAAJJIRA BARNOOTA
KUTAA MAGAALAA G
BULCHIINSAA BARNOOTAA
FI GAREE SIRNA RAGAA

CITY GOVERNMENT OF ADDIS ABABA

GULLELE SUB - CITY EDUCATION OFFICE EDUCATION MANAGEMENT INFORMATION SYSTEM TEAM

ቁጥር የት/አ/መ/ስ/ቡ/ 59/ 2/2015
ቀን 22/03/2015 ዓ.ም

ለአዲስ አበባ ከተማ ዩኒቨርሲቲ
የትምህርት ጥናት እና ምርምር
አዲስ አበባ

ጉዳዩ:- የእይታ ችግር/አይነ ስጦር/ ተማሪዎች መረጃ ይመለከታል

የአዲስ አበባ ዩኒቨርሲቲ የትምህርት ጥናት እና ምርምር ተቋም በክፍለ ከተማችን ባለ-
ት/ቤቶች የእይታ ችግር/አይነ ስጦር/ ያላቸውን ተማሪዎች ያለ-በትን ት/ቤት ለይተን እንድንሰጣቸው
በቀን 19/3/2015 ዓ.ም በቁጥር ት.ጥ.ም.ተ/093/15 በተጻፈ ደብዳቤ በተጠየቅነው መሰረት የ2015 ዓ.ም
ፈጣን መረጃን መነሻ በማድረግ የት/ቤቶቹን ዝርዝር ከዚህ ደብዳቤ ጋር ...ገጽ አባሪ አድርገን የላከን
መሆናችንን እንገልጻለን ::



ከሰላምታ ጋር

[Handwritten signature]
የትምህርት ስራ አመራር መረጃ ስርዓት
ቡድን መ/ፊ

ግልባጭ
ለጉለሌ ክፍለ ከተማ ትምህርት ጽ/ቤት

ራዕያችን : አጠቃላይ የትምህርት መረጃ ስርዓት ጥራት ተደራሽነትና ወጪታማነት ላይ ከፍተኛ ለውጥ ማምጣት ነው::

	የት/ቤቱ ስም	ተቋሙ የሚገኝበት ወረዳ	
1	ድልበትግል የመጀ/ደረጃ X	1	የመጀመሪያ ደረጃ
2	ቁስቋም የመጀ/ደረጃ	1	
3	አዲስ ተስፋ የመጀ/ደረጃ	2	
4	አየሩሳሌም የመጀ/ደረጃ	3	
5	ጸሀይ ጮራ የመጀ/ደረጃ	3	
6	አጼልብገድግል የመጀ/ደረጃ	4	
7	አዲስ ብርሀን የመጀ/ደረጃ	5	
8	አዲስ ዘመን የመጀ/ደረጃ	6	
9	ኢትዮ.ሀዳሴ የመጀ/ደረጃ	7	
10	ሀምሌ 19 የመጀ/ደረጃ	7	
11	አዲስ ተስፋ ኮከብ የመጀ/ደረጃ	7	
12	በላይ-ዘለቀ የመጀ/ደረጃ	8	
13	ብርሀን ሀሊና የመጀ/ደረጃ	8	
14	ጄኔ.ታደሰ.ቁ.2 የመጀ/ደረጃ	8	
15	አ.አ.ቁ1-የመጀ/ደረጃ	9	
16	አ.አ.ቁ-2 የመጀ/ደረጃ	9	
17	መድኃኔአለም የመጀ/ደረጃ	9	
18	ጄ/ታደሰ ብሩ ቁ-1 የመጀ/ደረጃ	9	
19	ምእራፍ የመጀ/ደረጃ	10	
1	አንጦጦ አምባ ሁለተኛ ደረጃ X	1	ሁለተኛ ደረጃ
2	ቀ/ደ/ሰላም ሁለተኛ ደረጃ	4	
3	ድልበር ሁለተኛ ደረጃ	7	
4	መድኃኔአለም መስናዶ	9	
5	ጄ/ታደሰ ብሩ ሁለተኛ ደረጃ	10	
6	ምእራፍ 2ኛ/ደ	10	



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ሐምሌ 19/67 የመጀመሪያ ደረጃ ት/ቤት
 MANA BARUMSAA HAMLEE 19/67 SAD.1^{FFAA}
 HAMLE 19/67 PRIMARY SCHOOL

ቁጥር ሐ19/67/928/35

ቀን 13/04/2015 ዓ.ም

ለአዲስ አበባ ዩኒቨርሲቲ
 አዲስ አበባ

ጉዳዩ:- መረጃ መስብሰቡን ማሳወቅን ይመለከታል

ከላይ በርዕሱ ለመግለፅ እንደተሞከረው በጉለሌ ክ/ ከተማ ወረዳ 7 ት/ት ጽ/ቤት ስር የሚገኘው የሐምሌ 19/67 የመጀመሪያ ደረጃ ት/ቤት የልዩ ፍላጎት ተማሪዎችን የሚያስተምር ሲሆን አቶ ኤርሚያስ ግብረዓብ በት/ት ቤታችን በመገኘት የመምህራን የተማሪዎች መጠይቅ እንዲሁም የክፍልና የሪሶርስ ማዕከል ምልክታ ያደረጉ መሆኑን አሳውቃለሁ።



ከሰላምታ ጋር
 ሀላውያት ስም
 Halewisa Hamlee
 ርዕሰ መምህርት

☎ 011-127-08-96

✉ 21515

የትምህርት ጥራትን ለማስጠበቅ የትምህርት ፓኬጅን ተግባራዊ እናደርጋለን!!



በጉለሌ ክ/ከተማ ትምህርት ጽ/ቤት
Waajjira Barnoota Kutaa Magaalaa Gulaalleetti
Gulele Sub-city Education Office

የፀሐይ ጮራ የመ/ደ/ት/ቤት
Mana Barumsaa Tsehaay Corraa Sad. I^{ffaa}
Tsehay Chora Primary School



ቁጥር :- 06/1/0156/35/15
ቀን :- 17/4/2015 ዓ.ም.

ለአቶ ኤርሚያስ ክብረአብ

አዲስ አበባ ፣

ጉዳይ:- መረጃ መስጠትን ይመለከታል

ከላይ በርዕሱ እንደተገለጸው አቶ ኤርሚያስ ክብረአብ በትምህርትቤታችን ተገኝተው ከልዩፍላጎት ሪፖርት ማጻኘት፣ በከፊል ማየት ከማይችሉ ተማሪዎች ፣ በመጠይቅና በክፍል ውስጥ ምልክታ በማድረግ እንዲሁም ከመምህራን መረጃዎችን መሰብሰባቸውን በትህትና እናሳውቃለን።

ግልባጭ :-

ለትምህርት ቤቱ አስተዳደር

አዲስ አበባ ፣



ከሰላምታ ጋር

ደ.ጋ.ጅ ወ/ተንሳዬ ክፍለ
 Dereje w/Tensay Kifle
 የት/ቤት መሻሻል ፕሮግራም ም/ር/መምህር
 School improvement Program
 Vice Director

ራዕይ:- የፀሐይ ጮራ የመ/ደ/ት/ቤት ጥራት ያለው ትምህርት በመስጠት፣ ጠንካራ የትምህርት ልማት ስራዎች በመገንባትና መልካም አስተዳደርን በማሰፈን 2015 ዓ.ም መመዘኛ መስፈርት በከተማችን ስር ነሉ የመ/ደ/ት/ቤት ተመራጭ ሆኖ ማየት።

Mul'ata; Barumsaa Tshaay Corraa Sad t' Barnoota qabu lamii hunaan gahuu, Lamii misooma barnootaan cimaa ta'e ijaaruu fibulchinsaa gaarii nirkaneessuun bara 2015 A.i i tti madaaaili safartuu safartuu safartuu kaminiyyuu manneen barnootaa sad i^{ffaa} magaalaa Keessaa filatamaa ta'e argammu.

☎ 251-111-22-27-03/02 /011-126-10-01

✉ 23319

ወጪ 2015 ዓ.ም.

ገ/አ መ
ገ/አ መ

ገ/አ መ



በኮልሬ ቀራንዮ ክፍለ ከተማ ወረዳ 06 የወይራ ቅድመ አንደኛ እና የመጀመሪያ ደረጃ ት/ቤት
 Kolfee Qaranyiotti Mana Barumsaa Idilee-duraa fi Sadarkaa 1ffaa Weyiraa
 Kolfe Keranio Sub-City Woreda 06 Woyra Primary School

ቁጥር ...2322/037/1:23.....
 ቀን21/04/2013.....

ለአዲስ አበባ ዩኒቨርሲቲ የት/ት ጥናትና ምርምር ተቋም

አዲስ አበባ

ጉዳይ:- በት/ቤታችን የጥናትና ምርምር መረጃ የተሰበሰበ መሆኑን ስለማሳወቅ ::

ከላይ በርዕሱ ለመግለፅ እንደተሞከረው በኮ/ቀ/ክ/ከተማ ወረዳ 06 ወይራ ቅድመ አንደኛ እና የመ/ደ/ት/ቤት በኮልሬ ማየት የሚችሉ ተማሪዎች በአካቶ ትምህርት አሰጣጥ ዘዴ ትምህርታቸውን እንዴት እየተከታተሉ መሆኑን በተመለከተ ከአዲስ አበባ ዩኒቨርሲቲ የተዘጋጀውን መጠይቅ በአቶ ኤርሚያስ ክብረአብ በኩል መረጃው የተሰበሰበ መሆኑን እናሳውቃለን።



ከሰላምታ ጋር
~~መግለጫ~~
 ተካልኝ ለጅጉ ደግሞ
 Tekalegn Ejigu Demissa
 ርዕሰ ማህ-02

ስልክ ቁጥር 011-3-49-89-61/011-3-49-89-62

አዲስ አበባ

የትምህርት ጥራት ለማረጋገጥ የባለድርሻ አካላት ሚና ወሳኝ ነው!!

በልደታ ክፍለ ከተማ አስተዳደር
በወረዳ 5 ት/ት ጽ/ቤት
ዓለም-ማያ የመጀ/ደ/ት/ቤት
አዲስ አበባ



አዲስ አበባ ከተማ አስተዳደር ትምህርት ቢሮ
BIRRO BARNOOTA BULCHI NSA MAGAALLA FINFINEE
ADDIS ABABA CITY ADMINISTRATION EDUCATION BUREAU

Lideta sub City Administration
Worda 5 Education Office
Alem-maya primary School
Addis Ababa

ቁጥር:- ል/ወ/5/ክ/ማ/311/02/35/ 04 ነጭ 115

ቀን :- 28/04/2015 ዓ.ም

ለ አዲስ አበባ ዩኒቨርሲቲ ጥናትና ምርምር

በልደታ ክፍለ ከተማ አስተዳደር

በወረዳ 5 ት/ት ጽ/ቤት

ዓለም-ማያ የመጀ/ደ/ት/ቤት

አዲስ አበባ

ጉዳዩ:- መረጃ መስጠትን ይመለከታል

ከላይ በርዕሱ ለመግለጽ እንደተሞከረው አቶ ኤርምያስ ክብረአብ በት/ቤታችን በመገኘት ለጥናት የሚረዳቸውን የመምህር መጠይቅ ፣ የተማሪ መጠይቅ በማስሞላትና የክፍልና የት/ቤት ምልክታ በማድረግ መረጃ የወሰዱ መሆኑን እንገልጻለን ።

ለ አዲስ አበባ

አዲስ አበባ



ከሰላምታ ጋር

ተመስገን ወ/ጊዮርጊስ
TEMESGEN WIGEYORGES
C/መምህር
PRINCIPAL

ግልጻዎ :- ለ ፋይል



በአዲስ አበባ ከተማ አስተዳደር
በልደታ ክፍለ ከተማ ት/ጽ/ቤት
የሀዳሴ ልደታ 2ኛ ደረጃና መሰናዶ ት/ቤት

City Government of Addis Ababa
Lideta Sub City Education Office
Hidase Lideta Secondary&Preparatory School

ቁጥር በሀ/ል/2ኛ/ደ/መ/ት/ቤት 6/37 /2015 ዓ.ም

ቀን 04-05-2015

ለአዲስ አበባ ዩኒቨርሲቲ ፕናትና ምርምር

አዲስ አበባ

ጉዳዩ:- መረጃ መስጠትን ይመለከታል

ከላይ በርዕሱ ላይ ለመግለጽ እንደተሞከረው ኤርምያስ ከብረአብ በትቤታችን በመገኘት

1. የመምህራንን መጠይቅ
2. የተማሪዎች መጠይቅ
3. የትምህርት ቤት ምልከታ እና
4. የክፍል ምልከታ በማድረግ ዳታ የሰበሰቡ መሆኑን እንገልጻለን።



ከሠላምታ ጋር

(Handwritten signature)

Solomon Yitayew
Principal of the school

011 835 30 84 /011 835 33 79

"ተግባብቶና ተባብሮ በመሰራት አዲስ ለውጥ እናመጣለን!!"

ምላሽ ሲጻፉልን የማገናዘቢያ ቁጥሮችን፣ የጉዳዩን ርዕስና የሚመለከተውን ክፍል ይጥቀሱ።