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ABBREVIATIONS AND ACRONYMS

DfEE-Department for Education and Employment

EFA-Education for All

EPRDF-Ethiopian People's Revolutionary Democratic Front

ENAB-Ethiopian National Association of the Blind

ESDP-Education Sector Development Program

ETP-Education and Training Policy

FDRE-Federal Democratic Republic of Ethiopia

ICHR-International Covenants on Human Rights

ICIDH-International Classification of Impairment, Disabilities, and Handicaps

IDEA-Individuals with Disabilities Education Act

IEP-Individualised Educational Programme

ILO-International Labour Organisation

MoE-Ministry of Education

MoH-Ministry of Health

MOLSA-Ministry of Labour and Social Affairs

NICHCY-National Dissemination Center for Children with Disabilities

SADPD-Secretariat of the African Decade of Persons with Disabilities

STAD-Student Teams-Achievement Division

UDHR-Universal Declaration of Human Rights

UN-United Nations

UNCRPD-United Nations Conventions on the Right of Persons with Disabilities

UNESCO-United Nations Educational, Scientific, and Cultural Organisation

UPE-Universal Primary Education

WHO-World Health Organisation

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CHAPTER 1

AN INTRODUCTORY ORIENTATION

1.1 INTRODUCTION

This chapter discusses background of the study, significance of the study, statement of the problem, aims and objectives of the study, research design and methodology, measures to ensure trustworthiness, ethical considerations, and definition of concepts. In addition, a chapter outline is given. Under statement of the problem, research questions are mentioned. Similarly, a brief overview of the research design and methodology, sampling, research setting and selection of participants, and data collection process is provided. Data collection instruments which are one-on-one interviews, observation, focus group discussions and questionnaire are highlighted. The concepts that are defined and clarified also include inclusion, inclusive education, inclusive schools, and visual impairment.

1.2 BACKGROUND OF THE STUDY

Since the coming into power of the Ethiopian People's Revolutionary Democratic Front (EPRDF) in 1991, the education system was changed to satisfy the needs of the people. The current government has been making efforts to provide access and quality education for all. In the last two decades, Ethiopia has been showing remarkable progresses in the expansion of education. Primary school enrollment rate has increased to more than 90%. Accordingly, the number of secondary schools and tertiary schools has increased drastically. The education policy acknowledges that education should cater for the diverse nature of the people of Ethiopia. As a result, primary school curricula and teaching and learning materials are designed in the mother tongues of the learners to ensure inclusivity (MoE, 2011a:16; Tekeste, 2006:31). The country has accepted the universal declarations and conventions on education. Since the 1994 Salamanca conference on Special Needs Education, countries have made a paradigm shift to inclusive education. Ethiopia has also made a shift from special needs education to the notion of inclusive education (MoE, 2006:1).

The World Vision (2007:3) report estimates that there may be 7.7 million people with disabilities in the country, of which half of them are youth and children. The report

also states that the involvement of children with disabilities such as the visually-impaired learners in education is low for reasons like negative attitudes of the community, culture, poverty, lack of schools and low level of education quality. As to the estimation of the Ministry of Education, 1.5 to 3 million school-aged children which includes visually-impaired learners in Ethiopia need special needs education (MoE, 2006:5). However, a very small number of those learners are attending school. Despite the declarations of Education for All and Universal Primary Education, many children continue to be out of school. Lewis (2009:11) states that, though there is no reliable data on disability in Ethiopia, it is estimated that 10 to 20% of children have special educational needs. According to MoE (2011b:37) latest statistical data at hand around 60,789 learners with special educational needs are attending school. Out of the data, 55,492 are in primary schools, 4,543 are in secondary schools and the remaining 754 learners are attending their preparatory schools. Again of the total number of learners with special educational needs, 7,911 are visually-impaired learners. The statistics shows that out of the 7,911 visually-impaired learners, 7,016 are enrolled in primary schools, 640 are in their secondary schools and the rest 255 are in their preparatory schools. But MoE (2011b:37 and 47) states that the current number of learners attending their schools are expected to exceed the given figure. In 2016, though there is no reliable data, the number of learners with special educational needs including the number of visually impaired learners could exceed the mentioned data.

The definitions of inclusive education show that inclusive education is not about teaching children either with disabilities or abilities in a specific or special school, but it is about creating an 'inclusive school' that treats all learners equally. It also means creating a learning environment where all children can learn together so as to set their mind in a way that they can live together and work together. However, some studies have shown that schools and teachers have negative attitudes about inclusive education for many reasons (Gezahegne & Yinebeb, 2010:89; Mbelu, 2011:IV; Mpya, 2007:46; Walton, 2006:43).

The Ministry of Education in Ethiopia admits that there are problems in implementing inclusive education in the country; as a result, a strategic plan was redesigned in order to counteract these problems (MoE, 2012:10). Therefore, the researcher became interested in exploring how the schools are functioning because the nature

of the schools has a critical influence in the practice of inclusive education. Hence, my undertaking to conduct research is on the inclusion of visually-impaired learners in Tigray Regional State of Ethiopia with particular reference to secondary school learners. This will help stakeholders in education to gain knowledge on the status of schools' inclusive nature, and the inclusion of visually-impaired learners in secondary schools in the region as well as in the country.

1.3 SIGNIFICANCE OF THE STUDY

This study has both practical and theoretical significance. The practical significance of the study is that curriculum developers can use it as a source of information in developing curriculum. In addition, it is hoped that teachers can use it for applying inclusive methodology. The theoretical significance of this study is adding knowledge gained from the context of the study to the global knowledge. Moreover, it may be useful for next generation to use it as input to conduct further research and as a reference.

1.4 STATEMENT OF THE PROBLEM

Ethiopia is one of the countries which has officially accepted the international conventions and declarations of education. It has been a long time since the country has acknowledged the universal right to education and declared education for all. In support of this, the 1994 Education and Training Policy of Ethiopia includes "expansion of quality primary education to all citizens" (UNESCO, 2007:6), including children with special needs education. Similarly, the Ministry of Education showed its commitment to provide access education to all children by 2015 (MoE, 2005:4; 2010:9; World Vision, 2007:4). Following this, governmental and non-governmental organisations are working hard to provide quality education. Even though there is no data which shows to what extent all visually-impaired learners are included in education in Ethiopia, education stakeholders are working to enhance it. But MoE (2006:6) clarifies that children with disabilities including visually-impaired learners in Ethiopia encounter barriers such as quality of teaching, social and cultural environment, lack of facilities, poor interaction between teachers and learners and lack of adequate equipments. Furthermore, MoE (2006:1; 2012:10) clearly reported that there is still a gap in providing access to all children and actualising inclusive

education in the country. The researcher's experience shows that there is no inclusion of visually-impaired learners in secondary schools. Therefore, investigating the inclusion of visually-impaired learners in the Ethiopian context was found to be important.

1.4.1 Research Questions

Based on the above-stated problem, this research is expected to answer the following main research question and its sub-questions:

What is the nature of school inclusivity regarding visually-impaired learners in Tigray secondary schools of Ethiopia?

The sub-questions of this study are:

- What are the barriers hindering the actualisation and implementation of inclusive education in the schools?
- What are the barriers impeding the inclusion of visually-impaired learners in the selected schools?
- What strategies can be employed to ensure the realisation of the inclusion of visually-impaired learners?

1.5 AIMS AND OBJECTIVES OF THE STUDY

The aim of the study is to investigate the nature of school inclusivity regarding visually-impaired learners in Tigray secondary schools of Ethiopia.

The specific objectives of the study are to:

- Identify the barriers hindering the actualisation and implementation of inclusive education in the schools.
- Determine the barriers impeding the inclusion of visually-impaired learners in the selected schools.
- Explore the strategies that can be employed to ensure the realisation of the inclusion of visually-impaired learners.

1.6 RESEARCH DESIGN AND METHODOLOGY

A mixed methods research with a constructivist paradigm is used to conduct the research in this study. A mixed methods research is a research method by which both qualitative and quantitative data are collected, data are merged together and the assumptions and theories of the quantitative and qualitative research methods are considered (Creswell, 2014:4). In addition, Lodico, Spaulding and Voegtle (2006) state that mixed methods research is helpful to collect both quantitative and qualitative data to show a complete understanding in an educational research.

On the other hand, this research is a case study research. Creswell (2009:13) says, “Case studies are a strategy of inquiry in which the research explores in-depth a program, event, activity, process, or one or more individuals”. Furthermore, Creswell (2009:13) says case studies are delimited by time and activity, which is true of the present research. As this study is delimited to secondary schools, the participants of the study are school principals, teachers and learners. This aspect is presented in more details in chapter 4.

Regarding the research paradigm, Neuman (2007:41) defines paradigm as an assumption, beliefs, models of doing research, and techniques of data gathering and analysis. Neuman (2007:41-44) mentions that there are different paradigms/approaches to be followed in doing research including positivist, critical and interpretive/constructivism paradigms. Flick (2007:2) argues that since most qualitative researches start from the ‘naturalistic approach to the world’, the paradigm followed is interpretive or constructivist. In this research, an interpretive paradigm is followed. Neuman (2007:43) explains that an interpretive paradigm is more subjective than objective. He adds that according to researchers, human social life is qualitatively measured. This aspect is presented in more detail in chapter 4.

1.6.1 Sampling, Research Setting and Selection of Participants

The study was conducted in Tigray Regional State. Though there are many secondary schools in the region, two schools were selected from the capital city of the region for various reasons. Firstly, Tigray Regional State was selected because the researcher knows some of the causes of disability such as diseases, accidents, and malnourishment. Secondly, the schools are found near to the researcher’s birth

place and the researcher has better understanding about the setting of the schools and the community in general. Thirdly, the schools enroll and teach visually-impaired learners together with sighted ones starting from Grade 9. Lastly, the schools are relatively better-resourced than other schools in the region.

This research employed purposive sampling to select two secondary schools which have visually-impaired learners learning with sighted learners. The participants of the study were two school principals, 12 visually-impaired learners, 12 sighted learners and 35 teachers who teach general classrooms having visually-impaired learners together with sighted learners. The reason for having school principal participants is because they are the ones who are in the highest positions at the schools and are believed to be responsible for the implementation of inclusive education in their schools. In addition, the principals are expected to have a better understanding of inclusive education and visual impairment as well. Teachers were selected because they are directly involved in the implementation of inclusive education and/or teach learners with abilities and disabilities. On the other hand, the learners were selected since they are impacted by the practice of inclusive education.

The interview teacher participants of this study were English language teachers as the researcher has an English language education background. This helped him to easily observe classroom teaching, text-books, teaching aids and the teaching methodology. The teacher and learner participants were from both genders but the principals were all male. More discussion is presented in chapter 4.

To collect the data, the researcher first wrote a letter requesting permission to conduct the study in the schools. Second, the researcher wrote an informed consent and learner assent letters to participants. Then, he established rapport with the research participants. The one-on-one (face to face) interview was held with the two school principals and four teachers. A focus group discussion was held with 24 learners, these learners were divided into four focus groups. Thirty one teachers teaching classes that included both sighted and visually-impaired learners were asked to complete a questionnaire.

1.6.2 The Data Collection Process

The data for this research were collected qualitatively using three primary research instruments: one-on-one interviews, focus group discussions and observation. According to Dawson (2007:15-16) to get very detailed or in-depth information from a few participants in qualitative research using tools like interviews is important. In addition, quantitative data were collected by means of a questionnaire. As a result of its nature this questionnaire involves numbers in its analysis.

In a typical study, researchers first distinguish the research problem they want to study. Then, they design questions which address the problem. Following their selection of appropriate research methods which will allow them to choose research design and strategy to address the research questions, they decide on how to collect data (Johnson & Christensen, 2004:162).

The choice and use of appropriate data gathering tools for research depends on aspects like the nature of the subject matter of the research and the nature of participants of the study (Burton, 2000:321). Hence, taking such factors into account, four types of data gathering tools were employed. They are interviews, observation, focus group discussions and questionnaires. These data collection instruments are discussed below:

1.6.2.1 One-on-one interviews

Interviewing is one of the data collection tools, which is a very good way of assessing people's perceptions, meanings, definitions of situations and constructions of reality. As Punch (1998:175) states, "It is also one of the most powerful ways we have of understanding others". In this study, two principals and four teachers were interviewed.

A semi-structured interview was designed to collect data from interviewees. A semi-structured interview gives interviewees a degree of power and control over the course of the interviews with a great deal of flexibility. Moreover, it enables the interviewees to put across their ideas and yet its semi-structured nature saves them from going off the point (Nunan, 1992: 149). Though guideline questions were used, the researcher did not stick to them rigidly. In other words, the participants were interviewed with possible probing. The way the participants were interviewed is one-

to-one in order to make them feel free, confident, and relaxed. The interviewees with their full consent were recorded. They were asked some similar questions for the sake of triangulation.

1.6.2.2 Observation

Kumar (2005:119) notes that observation is “a purposeful, systematic and selective way” of observing a situation as it is going on. It is also appropriate in situations where all necessary information cannot be elicited by questioning because respondents either are not co-operative or are unaware of the answers. Taye (2008: 36) says that observation is desirable for the reason that it helps to collect rich and credible information. Again, Best (1977:169) points out that observation is an essential primary data collection tool to show how the lesson is conducted using a variety of activities such as: group work, individual work, role-playing, discussion and others. Besides, the researcher believed that the instrument would help him to observe the actual practices in the schools and classrooms that interview and focus group discussion might not provide.

Two kinds of observation were done during the study. There was classroom observation focusing on learners’ participation, doing group work assignments, teachers’ teaching methodology and seating arrangements. The other kind of observation was school observation. This included observing the school setting and the facilities available. Observation took place in the natural setting while the teaching and learning process was carried out. Here, the observer asked permission from school principals and teachers to observe the school and classroom environments respectively. Four teachers (two from each school) were observed while teaching in the actual classroom. The teachers volunteered to allow this so it was done with their full cooperation. The observer remained a non-participant observer.

During observation, location of schools, availability of facilities in the schools such as toilets, water supplies, electricity, materials, accessibility of buildings and space in the schools were observed. In addition, the nature of staff-learners and learner-learner relationships in the schools was observed. In addition, a thorough observation was done inside the classroom. The size of the classroom, space between rows, class size, lighting, decoration of the classroom, noise levels inside

the classroom, availability and conditions of available assistive devices and materials, learners' activities, teachers' activities including teaching methodologies and strategies used by teachers and adaptations made for learners with visual impairments and seating arrangements of learners were observed. Then, a general view of the school and classroom environment conditions with regard to the inclusion of visually-impaired learners were observed. Regarding classroom observation, teachers were observed while teaching in the actual classroom. In general, the observation was conducted in two secondary schools of Mekelle city. Both the school and classroom environments were observed. The observer took notes of what he observed in addition to using the observation guide.

As mentioned above, in this study the researcher was a non-participant observer in which he was not either part of the groups to be observed nor had a direct interference in any activities of the groups like participating in classroom activities or teaching. The reason for the researcher choosing to be a non-participant observer was first because of the nature of the research and second, as Vanderstoep and Johnston (2009:91) say, "… the observer can remain detached, and therefore might be less prone to bias."

1.6.2.3 Focus group discussion

In this research, a focus group discussion was used as a data collection instrument. According to Mack, Woodsong, MacQueen, Guest and Namey (2005:51), a focus group is a qualitative data collection instrument where a moderator (researcher) and participants discuss a research topic in a group. Willig (2013:122) also states that focus group discussion is done among participants where the participants are the source of data for the research. The task of the moderator (researcher) is to facilitate the discussion. Hatch (2002:132) and Mack, et al. (2005:51) mention that one of the primary purposes of a focus group discussion is to obtain a good amount of information in a short period of time and various views on a given topic. In addition, Bloor, Frankland, Thomas and Robson (2001:13) point out that a focus group discussion engages the participants in an issue that affects them, it is time-efficient, and "requires no technical skills" of the participants. Bloor, et al, (2001:16) further say that a focus group discussion helps participants to be relaxed to share ideas and opinions in the presence of others. Therefore, the researcher gathered data from the

participants and his role was moderating the discussions. Participants in the focus group discussions were both visually-impaired and sighted learners.

Willig (2013:123-124) indicates that focus groups can have homogenous or heterogeneous groups, colleague groups or new people, or people who have the same interest in a topic or people who do not have any involvement in the topic. The focus group discussion were organised into four groups. Two groups from each school were formed. The learners were grouped according to their category, namely, visually-impaired learners and sighted learners. So, there was four groups of six participant learners. The visually-impaired and sighted group discussion participants were asked different questions. Probing was used to allow the participants to expand their views and opinions in the discussion. The medium of communication with the focus group discussion participants was the learners' mother-tongue i.e. Tigrigna. The data was audio-recorded with the permission of the participants.

Twelve visually-impaired learners and twelve sighted learners were selected to participate in the focus group discussion. The selection process was based on their background and the information they may have about inclusion and impairment since they have experienced it. Recommendations from principals and teachers on the selection process of the learners were considered.

1.6.2.4 Questionnaire

A questionnaire is a data collection instrument where respondents give written information. The responses could be facts and opinions (Denscombe, 2007:155). Walliman (2006:87-88) states that questionnaires help to gather data without talking to every participant and are flexible if planned well. Hence, Wilkinson and Birmingham (2003:8) state that questions in the questionnaire should be clear and understandable by the respondents. Denscombe (2007:155) also says that questionnaires are time-efficient because they are helpful to gather a large amount of data at a time. Kothari (2004:100) and Wilkinson and Birmingham (2003:8) add that questionnaire helps to collect huge amount of data from many participants. In explaining the advantages of questionnaires, Wilkinson and Birmingham specify that they are cheap to administer and require little training to design them. They further say that questionnaires are easy to analyse.

In this research, questionnaire was used to compare, triangulate and suplement the data obtained from the qualitative data collection instruments. Wilkinson and Birmingham (2003:10) and Walliman (2006:88) state that questionnaire items can be open-ended, closed ended or ranking. The items in the questionnaire included open ended where respondents could answer in their own words freely, closed-ended items where respondents could choose from given alternative choices, and Likert scales where respondents could show the level of their agreement or disagreement with statements. The questionnaire was distributed by the researcher to the teachers who were teaching visually-impaired learners in their classrooms. The purpose of distributing the questionnaire by the researcher included assisting respondents in clarifying what they may not understand and convincing them to respond to the questionnaire (Walliman, 2006:88). Thirty five teachers teaching visually-impaired learners in their general classrooms were asked to participate in the questionnaire. Before teachers completed the questionnaire, explanations were provided and participant teachers were allowed to ask questions on points they did not understand. Teachers were given one day to complete the questionnaire and return it to the researcher. All the data collection mentioned above are discussed in detail in chapter 4.

1.6.3 Methods of Data Analysis

First, the audio-recorded data from interviews and focus group discussions was transcribed. Data collected in hard copy were also organised for reading. Then, a thorough reading of the whole data was done in order for the researcher to familiarise himself with the content. Next, themes were identified and data were coded. Firstly, open coding was done, which enabled the researcher to examine all the data before any analysis was carried out. Secondly, an axial coding, which helps to revise the thematic categorisation for any improvement, was applied. Lastly, selective coding was implemented so as to code the data systematically and put them under different categories. Hence, data were grouped under different themes. The data gathered had two stages of analysis: the individual instrument data analysis and discussion of results. The primary data were those collected through interview, focus group discussions and observation. Quoted or paraphrased opinions and views of interview participants were used in the analysis. Observation notes were also narrated. Since the researcher followed the constructivist paradigm,

interpretation of the data was paramount. Data gathered from a questionnaire were computerized and analyzed by an expert in statistical analysis. The detailed discussion of data analysis is presented in chapter 4.

1.7 MEASURES TO ENSURE TRUSTWORTHINESS

According to Mills, Durepos and Wiebe (2010:243), there are differences among researchers' definitions of trustworthiness, assessment of trustworthiness, and strategies they use to ensure trustworthiness.

The trustworthiness of this study was ensured by triangulating the results, i.e. by using both qualitative and quantitative data and employing four data collection tools namely interviews, focus group discussions, observation, and a questionnaire. The data collected from the tools were examined and used to build a coherent justification for themes. In addition, the participants of the study were involved and the knowledge gained from different actors was part of the study. Member-checking was used to determine the accuracy of the qualitative findings by taking the findings back to the participants to see whether they felt that they were accurate. Thick description was used to draw the picture of the setting in the mind of the readers in order to give the discussion an element of shared experiences. More importantly, the researcher spent enough time in the research area so as to understand the context in-depth and report in unbiased way. On the other hand, contrary information was considered as part of the themes to increase the credibility of the findings. Lastly, the entire research was reviewed by an external reviewer who could provide an assessment of it. The complete details on how the study ensured trustworthiness are discussed in chapter 4.

1.8 ETHICAL CONSIDERATIONS

Johnson and Christensen (2004:94) say, "Ethics is the principle and guidelines that help us to uphold the things we value". In educational research, the researcher asks questions; observes learners learning and teachers teaching as well as administrators accomplishing their responsibilities. In doing so, the researcher must be cautious not to intrude on the rights, privacy, and freedom of the participants without consent. That is why research ethics is important in conducting ethically sound research based on a set of guiding principles (Chapin, 2004:99; Johnson &

Christensen, 2004:118). In this research, the researcher considered the ethical principles of participants' confidentiality and anonymity, freedom to withdraw, and informed consent. In addition, a care was taken when interviewing the visually-impaired learners in order to protect them from any kind of harm they may be vulnerable to. The interviews were conducted in their schools in order to make sure that they are in an environment that they are familiar with. The questions revolved around resources, curriculum and access. There were no sensitive questions directed to them.

Cohen, Manion, and Morrison (2007:64) note that the participants' right to privacy should be respected. The right to privacy means that an individual has the right to participate or not to participate in any activities of the research. In the research activities where an individual has participated willingly, the researcher has to keep faith and make the purpose of the research clear to the participant. This helps to make sure that everything done with the participant is confidential. Similarly, the data gathered from participants should not make known their identity. Instead, coding can be used to represent the participants in the research, for example T1 for teacher 1 or P1 for principal 1.

In this research, participants were informed that they could withdraw from the study at any time without any consequence. In addition, an informed consent was signed by the participants. This helped to "protect and respect the right of self-determination and places some of the responsibilities on the participant should anything go wrong in the research" (Cohen et al., 2007:52). The detailed ethical guidelines adhered to are outlined in chapter 4.

1.9 DEFINITION OF CONCEPTS

Defining the concepts makes the research basic concepts clear to both the researcher and the readers to avoid ambiguity. The basic concepts employed in this research are defined below.

1.9.1 Inclusion

The term inclusion has become familiar to many teachers in recent years. Walton (2006:14) says, for the first time, inclusion was used in Canada to replace integration, but it has been defined differently by different scholars. In relation to this,

Deiner (2010:13) says, “One problem with inclusion is there is not a single definition of what inclusion is”. Similarly, Ainscow, Booth and Dyson (2006:14), Norwich (2000:8) and Nutbrown (2005:67) state that the term “inclusion” has different explanations by many organs according to their contexts. Enock (2011:8) defines it in a general sense as a basic human right. The United Nations Educational, Scientific and Educational Organization (UNESCO, 2005:13), however, puts it from its educational perspective, as follows:

> Inclusion is seen as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures, and communities, and reducing exclusion within and from education. … [As such] it involves a range of changes and modifications in content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children.

Similarly, Salend (2001:5) defines inclusion as a philosophy that brings families, students, and communities together to create schools based on common understanding. He says that inclusion not only focuses on disability but also focuses on all types of learners. It is a manifestation of diversity in the classroom where learners with or without disabilities are respected equally. Similarly, Norwich (2000:8) explains that inclusion refers to putting all students in the same place and learning the same lessons, and mutual coexistence. In general, the MoE (2012:16) states that inclusion refers to the process of adjusting the school to accommodate learners with special educational needs (LSEN) including those with disabilities, and creating opportunities for all learners to access education equally.

1.9.2 Inclusive Education

Stubbs (2002:21) points out that there should be “a clear understanding of inclusive education because depending on the underlying principles and values, the outcomes can be very different”. Hence, inclusive education has to be defined broadly and its definition should not take the “child as a problem assumption”. As the practice of inclusive education is going on, definitions of it are emerging over time, based on its implementation and the contexts where it has been practised. Therefore, there has

to be a continual definition of inclusive education if it is to be used to address educational challenges and human rights.

Armstrong, Armstrong, and Spandagou (2010:24) indicate that inclusive education came out of special needs education that itself became popular in Europe and North America and other developed countries in the 19th and 20th centuries. However, Stubbs (2002:21) argues that the key concepts and assumptions of inclusive education are different from special education. Rather, the concepts of inclusive education are in line with the underlying principles of Education for All and School Improvement. Stubbs (2002:25) further argues that inclusive education is different from special and integrated education in a way that the education system is flexible in accommodating it.

UNESCO (2009a:8) defines inclusive education as "a process of strengthening the capacity of the education system to reach out to all learners and can thus be understood as a key strategy to achieve EFA". Again, the Education White Paper 6 (Department of Education, South Africa, 2001:14), has the same definition of inclusive education although it is broader.

There are several views on the definition of inclusive education. What they have in common, however, is the sense that inclusive education means including "all" learners within the education system, but regarding the practice of inclusive education "there is a noticeable absence of information and guidance on how the theories and principles underlying inclusion translate into effective teaching practices" (Winter & O'Rawl, 2010:47). This may lead to the misunderstanding of the central objective of inclusive education which aims at focusing on solving barriers to learning and participation rather than focusing on a specific group (Stubbs, 2002:21).

To sum up, though there is no single definition of inclusive education, the common idea that the definitions of inclusive education in common have is that children with whatever difference should be included and learn together.

The operational definition is of inclusive education in this study is that it is the process of addressing and responding to learners' diverse needs by increasing participation and reducing exclusion within and from education.

1.9.3 Inclusive schools

As there are debates in the practice of inclusive education, there are also arguments how inclusive schools should be. The UNESCO (1994:61) describes inclusive schools as follows:

> The fundamental principle of the inclusive school is that all children should learn together, wherever possible, regardless of any difficulties or differences they may have. Inclusive schools must recognise and respond to the diverse needs of their students, accommodating both different styles and rates of learning and ensuring quality education to all through appropriate curricula, organizational arrangements, teaching strategies, resource use and partnerships with their communities. There should be a continuum of support and services to match the continuum of special needs encountered in every school.

From this one can understand that schools should identify the learners' needs and their learning preferences so as to fulfill their needs and styles of learning. This requires schools to design an inclusive curriculum and other teaching learning resources so as to suit the diverse nature of the learners. The inclusive school celebrates diversity among learners. Evans (2007:12) states that it is against the law in the United Kingdom to discriminate learners because of their disabilities and the Disability Discrimination Act 2005 calls for schools to "promote equality of opportunity".

In this study the explanation of inclusive school is regarded as a school which is open to all learners and is able to respond to the diverse needs of those learners.

1.9.4 Visual impairment

One of the important senses in our lives is vision. We sense and learn the world around us through vision. When a child loses this sense, he/she loses the ability to learn about the surrounding world through the eyes. A child with visual impairment experiences learning through other senses with special support (National Dissemination Center for Children with Disabilities (NICHCY), 2012:2), but what does visual impairment mean? Freeman, Cole, Faye, Freeman, Goodrich and Stelmack (2007:4) state that the World Health Organization (WHO) International

Classification of Impairment, Disabilities, and Handicaps (ICIDH) system is used to classify disorders (diseases), impairments, disabilities, and handicaps.

> **A disease** is an illness or medical condition, irrespective of origin or source that represents or could represent significant harm to humans.
>
> **Impairment** is any loss or abnormality in an anatomical structure or a physiological or psychological function.
>
> **A disability** is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. A handicap indicates a person's disadvantaged position in society, resulting from impairment and/or disabilities.

Freeman et al (2007:2) define visual impairment as:

> a functional limitation of the eye(s) or visual system and can manifest as reduced visual acuity or contrast sensitivity, visual field loss, photophobia, diplopia, visual distortion, visual perceptual difficulties, or any combination of the above.

A person with visual impairment will face many difficulties like being unable to read printed texts, mobility and others. He/she may also face challenges of social stigma, stereotypes, and challenges of fully participating in the social mainstream. So, for the development of the persons with visual impairment, participation in a community that considers their needs and gives them appropriate assistance is significant (Alemayehu, 2005:34).

According to Alemayehu (2005:36), visual impairment can be caused by refractive errors, cataracts, strabismus, lazy eye, glaucoma, astigmatism, retrolental fibroplasias, and nystagmus. People with visual impairment can also be classified as either partially-sighted people or blind. The partially-sighted people can read printed materials with the help of magnification or lenses. However, blind people can never read printed materials unless they are written in Braille. In this study, the explanation of visual impairment is taken as a functional limitation of the eye, for instance, not being able to read a text.

1.10 CHAPTER OUTLINE

Chapter 1 deals with the introduction and background of the study, significance of the study and discussions on the problem identification. In addition, it focuses on the research questions, aims and objectives of the study, research design and methodology, and the data collection process. Measures to ensure trustworthiness, ethical considerations and definition of concepts are discussed.

Chapter 2 discusses the theoretical framework of this research. It also includes a thorough literature review on the nature of school inclusivity for visually-impaired learners in secondary schools, and teaching learners with visual impairment in inclusive settings.

Chapter 3 deals with a literature review on the barriers to visually-impaired learners' inclusion in schools, and strategies that can be used to realise the inclusion of those learners.

Chapter 4 elaborates on the research methodology used, its relevance and the tools used to gather data, the research paradigm and design followed, sample participants, and the setting of the research. In addition, it discusses the measures taken to ensure trustworthiness and the ethical considerations followed in conducting the research.

In Chapter 5, data are presented, the analysis of data gathered from two case schools is made; and a discussion of results will be done.

In Chapter 6, summaries of literature review and research findings are provided; conclusions are drawn; and recommendations are made.

CHAPTER 2

THE INCLUSION OF VISUALLY-IMPAIRED LEARNERS IN SCHOOLS

2.1 INTRODUCTION

In addition to the theoretical frame work of the study, this chapter reviews literary works on the historical and international perspectives of inclusion for visually-impaired learners. It also deals with the history, practice and current status of inclusion for visually-impaired learners in Ethiopia. In addition to this, the chapter gives a detailed description of the legal and constitutional aspects of inclusive education in the country and the legal and educational definitions of visual impairment and its prevalence as well as the way visually-impaired learners can be taught in inclusive settings.

2.2 THEORETICAL FRAMEWORK

According to Armstrong, Armstrong and Spandagou (2010:24), inclusive education originates from the idea of a "just and fair society" in contrast to discriminatory educational systems. Scholars such as Tirussew (2005:112) and Asrat (2013:59) also strongly argue that the notion of inclusive education evolves from human rights and social justice. As a result, the notion of inclusive education is widely supported by international human rights declarations such as the United Nations Convention on the Rights of the Child (1989), the Universal Declaration of Human Rights (1948) and the Convention on the Rights of Persons with Disabilities (2006). Hence, this research is framed within the theory of justice. Many theories of justice have evolved. John Rawls is one of the theorists who developed the Theory of Justice in 1971. Arneson (2008:1) says that Rawls' aim was to create a theory of justice that was better than utilitarianism and that could reverse the idea of the 'No Theory Theory'. Arneson (2008:2) further says that Rawls developed the justice theory as a reaction against utilitarianism for its misrepresentation of different people with different backgrounds or for a non-critical consideration of the differences which are found between/among persons. Another critique, the National Pro Bono Resource Centre (2011:6) concludes that utilitarianism promoted an unequal distribution of resources among societies. Utilitarianism disregarded the rights of disadvantaged people. It gave more rights to upper-class people at the cost of the lower-class society.

Furthermore, Arneson (2008:5-6), Terzi (2010:10), National Pro Bono Resource Centre (2011:7) and Hey and Beyers (2011:238) posit that Rawls' theory of justice entails two principles. They are liberty (freedom) and social equality. While the first principle supports the right to freedom that every citizen or individual should have, the second principle advocates that social and economic discrepancies should be avoided in order to include the disadvantaged and share resources equally. According to this theory of justice, persons with any kind of impairment, including visually-impaired persons, can enjoy their freedom and benefit from social and economic aspects. In other words, Rawls' theory of justice is the foundation for the pursuit of social justice by which disadvantaged persons can benefit from social services such as education. Nevertheless, Terzi (2010:10) stresses that Rawls' theory of justice does not directly focus on education but his theory is open to extend to further developments such as the inequality in education.

Although Rawls' concept of social justice is found to be prominent, it was also criticised. The National Pro Bono Resource Centre (2011:6) criticised it for giving emphasis to government structures or systematic forms that are implemented not to benefit individuals but to benefit society in a general way. As a result, the National Pro Bono Resource Centre (2011:7) looked into the work of other scholars such as Miller and Sen. Miller's view of social justice gives more attention to unequal distribution of resources to the society. Sen's view of social justice gives emphasis to personal capacities to do things and also emphasises inclusivity of every individual (The National Pro Bono Resource Centre, 2011:8). The above discussion shows the different views of Western scholars on social justice but what does social justice really mean? Although scholars define social justice in different ways, they agree on the idea that social justice is about fairness, equality, freedom and/or democracy (Eugene, Provenzo & Provenzo, 2008:730; Hey & Beyers 2011:234; Humpage & Fleras, 2001:39; Jost & Kay, 2010:1122; Kridel, 2010:792). Regarding its derivation, Eugene et al., (2008:729) say the idea of the term justice originates from the Greek "just" which means "fair" and the idea of "just society" which is a model framework for the development of the society.

According to Eugene et al. (2008:729), the concept of social justice has become a vital necessity in the field of education. By giving examples of the relationship between a learner and economic status, the writers articulate that high-achieving

learners have a better chance of acceptance, status and social inclusion in their community. Thus, they underline the value of social justice in the education of citizens. Again, Eugene et al., (2008:729) state that the background differences of the children have motivated scholars to study how to alleviate inequalities. These two points leads to the idea that scholars have understood the inequality that disadvantaged learners are exposed to and the importance of education to minimise marginalisation. In addition, it is possible to say that learners with diverse backgrounds such as visually-impaired learners can benefit from educational provision when the learning environment is set up in a way that diverse learner groups can get a 'just' education.

In addition, Humpage and Fleras (2001:39) as well as Hey and Beyers (2011:238-239) tabled three models of social justice. The first one is the distributive model of social justice: the idea behind this is that resources (scarce) are distributed equally to individuals. The second model of social justice is the retributive model. Hey and Beyers (2011:238) say that retributive model is about punishing or rewarding people based on their performance. The retributive model of social justice is also known as "market-individualism". Again, Humpage and Fleras (2001:40) state that this type of model also deals with giving reimburse to individuals who were unfairly treated in the past. The last one is the re-cognitive model of social justice. This model of social justice seems to appreciate diversity which corresponds with inclusion. In describing the re-cognitive model of social justice, Humpage and Fleras (2001:41, citing Gale, 2000) articulate that it is different from distributive and retributive justice for the reason that re-cognitive model of social justice "...take differences seriously, recognition of the collective rights of groups, support for indigenous models of self-determination, and commitment to inclusiveness through meaningful involvement in decision-making processes". Hence, this model of justice seems to fit the concept of inclusion because of its closeness to it and can shape the present discussion of the inclusion of visual impairment in this research.

To sum up, studies of the last three decades show that disability is not a health problem; rather it is a civil rights and social problem. Hence, social change is needed in order to avoid discrimination. Additionally, studies in the area of disability have ascertained that disability is not as what it was considered to be by health and bioethics people (Asch, 2001:318-319). Therefore, visual impairment should be

viewed from a social justice perspective than medical one. Otherwise, the inclusion of visually-impaired learners in schools will not be inclusion but would amount to special needs education.

2.3 THE NATURE OF SCHOOL INCLUSIVITY FOR THE VISUALLY-IMPAIRED LEARNERS IN SECONDARY SCHOOLS

In this section, the historical and international perspectives of inclusion for visually-impaired learners are discussed. The different views on the current status of inclusive education are synthesised. In adition, the history of visual impairment education and its emergence in various countries is explained. Following this, the history, practice and status of inclusion for visual impairment in Ethiopia are briefly discussed. Furthermore, a discussion has been included on the legal, constitutional and policy aspects of inclusive education in Ethiopia in relation to the inclusion of visually-impaired learners.

2.3.1 Historical and International Perspectives of Inclusion for Visually-Impaired Learners

Abebe (2000:18) explains that persons with disabilities prior to the 1700s in the cultures of Romans and Greeks were highly discriminated and were victims of killings being considered as unnecessary human beings. Braddock and Parish (2001:12) also indicate that those children who had in-birth impairments were killed whereas after-birth impaired persons were integrated into the community as workers, citizens and soldiers. However, in countries like the ancient Egypt, persons with disability were not discriminated against: rather they had different high-ranking positions. For instance, there was a blind king of the pharaohs (Enerstvedt, 1996:6).

Before the early 19th century the people with disabilities were neglected and their disability was seen as a result of evil deeds or sin. They were kept inside their homes not to be seen by other people (MoE, 2012:2). Nevertheless, the introduction of special needs education has changed the minds of many. An institutional movement towards people with disabilities in Europe and United States evolved from 1800-1900. The movement itself was the result of the awareness of the need of people with disabilities by both physicians and educators. These two bodies again created awareness on the public and changed their attitudes. Hence, the first public

school for the mentally retarded was opened in USA in 1896. From this time, the change in attitude of the people has contributed to an understanding that persons with disabilities are teachable (MoE, 2012:2).

However, in countries of Europe, North America and Australasia, special education was aimed at identifying persons with disabilities, and categorising them in order to provide special schools for them (Armstrong, et al., 2010:5).

In the 1990s, the UNESCO, through its Salamanca Statement, made the term inclusion familiar. From that time, many have started to think of it from different perspectives. Among others, Ainscow and Haile-Giorgis (1998:4) have seen it from the education perspective and state that the exclusion of children from schools has become a "political agenda" for many nations. Armstrong, et al., (2010: vii) state:

> Inclusive education has become fashionable. Like all fashions its origins lie in the haute couture imagination, and from there has spread out, first into mass production for the high street and, thereafter, rapidly into the world of cheap replicas and reproductions. The world of high fashion is a strange world of creativity and abstraction, a world of extreme self-confidence and banal triviality.

The above quotation of comparison of inclusive education with fashion design leads to an understanding of inclusive education as being critically designed by scholars and it gained acceptance all over the world not because of its outer beauty but because of its innate importance to the education of human beings. In light of this, Armstrong et al. (2010: vii) articulate that inclusive education emerged after serious arguments between scholars. Again, Forbes (2007:66) states that government education policy makers introduced inclusion because they have the responsibility to make education accessible for all citizens. Hodkinson (2010:61) says that the idea of inclusive education was introduced in the 1900s. However, the current form of inclusion is the result of 1960s civil rights movement and debates on segregation policies. The MoE (2012:3), similarly, states that starting from 1960/70 up to today, inclusive education has been gaining acceptance by the people and educators due to pressure from parents, organisations of persons with disabilities, and human right movements.

According to the UNESCO Salamanca Statement (1994:6), agreements were made on the inclusion of learners with disabilities to learn with other learners in regular schools. By the same token, Mitchell (2010:121) states that in many countries of the world, the idea of inclusive education has become dominant in the education of LSEN. Mitchell further says that special needs education has shown many changes over the last 40 years. It has transferred from segregation to integration and then to the recent ideology of inclusive education.

Persons with disabilities and their supporters have been opposing traditional system of special needs education because it has a negative impact which labeled them as having no abilities at all. Similarly, policy-makers have become interested in the idea of inclusion. They believe that inclusion is important in creating unity among socially and culturally diverse members of society. The notion of inclusive education has attracted not only the developed countries of North America, Europe and Australasia but also developing countries. Recently governments of many countries have been focusing on social inclusion in their policies. 'Education reform' is considered as a motive for the existence of strong social 'integration and cohesion'. Transnational organisations like the UN, UNESCO, the World Bank and the UK's Department for International Development have been the main promoters of inclusion as the basis for the education system (Armstrong, et al., 2010:3-4).

Mitchell (2010:19) argues that the main actors for the spread of new thoughts of education all over the world are United Nations (UN) agencies. Mitchell further mentions that there are four main sources of influence: international conventions, the dissemination of influential legislation, mainly from the US and UK, the research literature and the internet. Similarly, Wertheimer (1997:5) mentions agencies such as the United Nations Convention on the Rights of the Child (1989), the UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities (1993) and UNESCO's Salamanca Statement and Framework for Action on Inclusive Education (1994) which have been playing their role against the idea of segregation. The documents, further, have a lion's share in bringing the notion of inclusive education onto the global agenda.

Sub-article 3 of the United Nations Convention on the Rights of the Child (1989:8), Article 28 which underlines the child's right to education, states that countries must

cooperate with other countries to avoid neglect of education and illiteracy and assist each other in the use of modern technologies and recent teaching methodologies. It also mentions that the needs of the developing countries should be prioritised. This clearly shows that countries should work together for the successful implementation of inclusion with special emphasis on developing countries where children have less access to education. By doing so, the countries have to cooperate for realisation of inclusive education in which visually-impaired learners are benefited.

On the other hand, the Standard Rules on the Equalization of Opportunities for Persons with Disabilities (UN, 1993), Rule 6, puts its stand against segregation as follows:

> States should recognize the principle of equal primary, secondary and tertiary educational opportunities for children, youth and adults with disabilities, in integrated settings. They should ensure that the education of persons with disabilities is an integral part of the educational system.

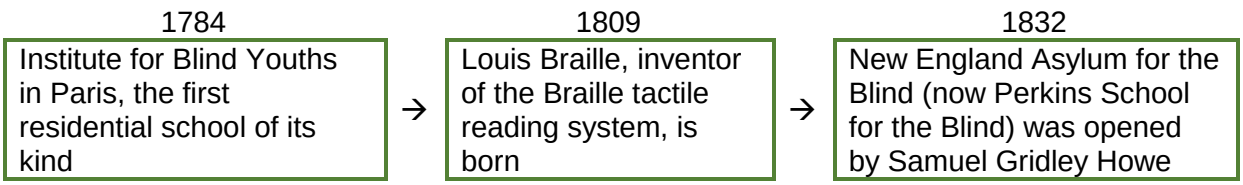
Nevertheless, this has failed to argue for inclusion. In light of this, the UNESCO Salamanca Statement (1994:11) says that the emphasis of social policy for the last twenty years was on promoting integration and social participation, but more clearly, the UNESCO Salamanca Statement (1994:11) has argued against not only segregation but also integration. It says that inclusion and participation are crucial for the effective practice of human rights. It has emphasised the close link between the medical integration and the evolving social model of disability. It has argued that children with disabilities have faced many difficulties because of the rigidity of educational policies and practices not because of their disabilities or because of where they are located. Likewise, the UN Convention on the Rights of Persons with Disabilities (2006) argued to consider inclusive education as a means of struggle against any kind of discrimination.

As to the practical knowledge of countries, LSEN learn best in inclusive schools. These learners can create a social bond and show progress in their learning. With this realization, parents, families, teachers, other fellow learners and volunteers in addition to a conducive educational environment, more space has been created for LSEN (UNESCO, 1994:11).

Moreover, the UNESCO Salamanca Statement (1994:11-14) outlines that the central guiding standard of inclusive schools is that children with diverse backgrounds should learn together. In addition to this, it states that inclusive schools should celebrate diversity and accommodate the diverse needs of the learners. They should also have to provide all kinds of support needed by LSEN to ensure quality of education for all. The statement also advises that countries should focus on inclusive education rather than special needs education. The educational policy and planning of governments must emphasise the education of all learners with whatever kind of differences they may have. Developing countries have to work hard to make basic education accessible to all learners, especially learners with disabilities and women. Both men and women should also equally participate in the designing of educational programmes.

It is clear to understand that the inclusion of visually-impaired learners in inclusive schools began after states agreed on the universal declarations, conventions and agreements on inclusive education. As to Friend (2011:638), consideration of education for visual impairment dates back to, when scholars in the field of education began to study how to educate persons with visual impairment. However, due to the variations in vision loss from mild to severe, they were not able to come up with any clear programmes for instruction. Besides, additional disabilities made the education of persons with disabilities more complicated. They came to believe that persons with visual impairment should be taught in specialised schools.

Friend (2011:638) states that the history of the education of visual impairment began in France. He tells the story of how a man called Louis Braille, who was born in 1809 and became blind at his age of three because of an accident at his father's workshop, invented a dotted writing and reading system which is now called by his name, Braille. However, the Braille system was not popularised until his death in 1854. Friend (2011:638-639) provides a timeline of the history of visual impairment education as shown in Figure 1 below.



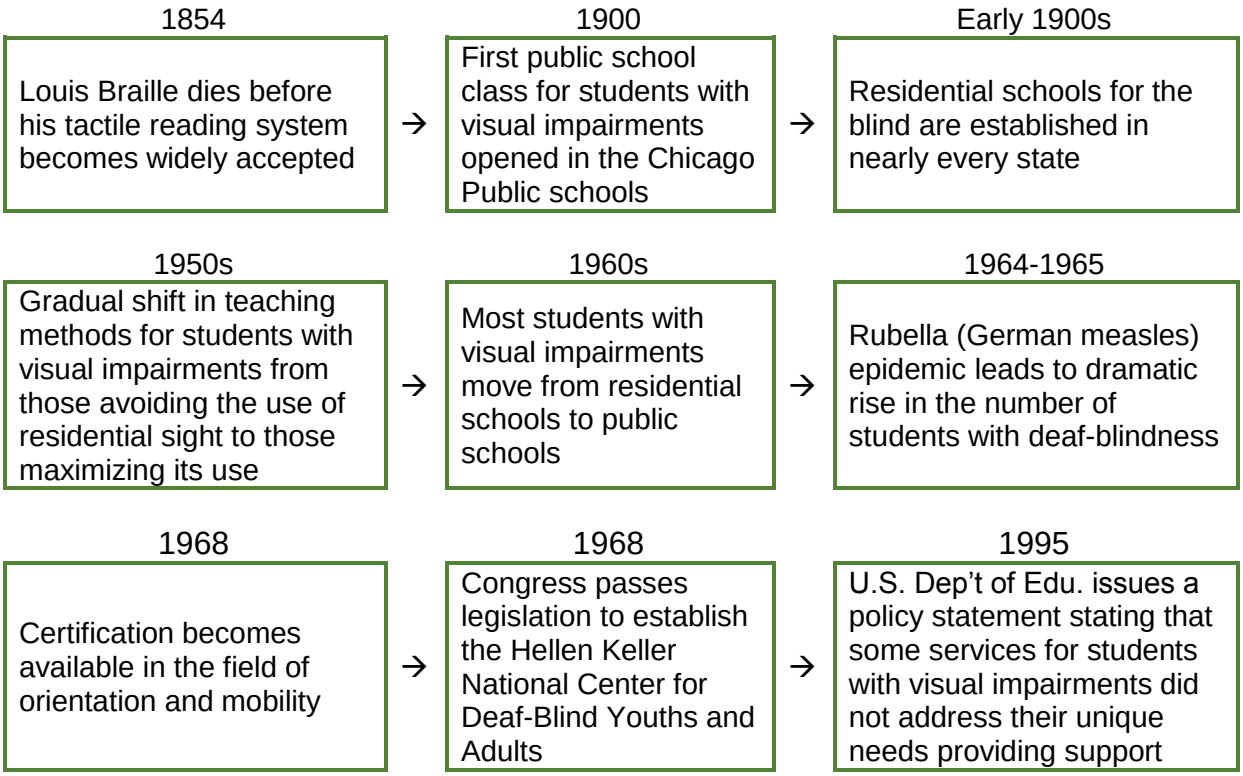


Figure 1.1 Timeline of development of education for the visually impaired

Source: (Friend, 2011:638-639)

Similar to Friend's (2011:368) idea, Fish (1985: vii; 23) says that a dramatic change was seen in the 1980s in the education of children with special needs. Again, Boyle and Topping (2012: 165) state that both the haves and have-not countries have given attention to inclusive education. Abebe (2000:19) also argues that there were discrepancies in the historical development of special needs education in countries of the world. For example, the teaching of learners with special needs in the US began in the early 19th century but it was a recent occurrence in the UK in relative terms. To make this clear, because of their accumulated experiences in the subject matter, the two influential countries' contexts of education of visual impairment are discussed briefly in the next section under developed countries context category.

2.3.1.1 Developed countries' context

Inclusion was first introduced in developed countries. Regular and special education were derived out of it. The Nordic countries developed integration in the 1960s. A decade later, both the US and UK followed Nordic countries to implement integration (Walton, 2006:14).

Mitchell (2010:20) and Ben-David (2011:114) recognise that the United States and the United Kingdom have been dominant role players and have ample experience in the field of education especially in inclusion. Walton (2006:14) similarly indicates that both the US and UK were the primary movers of inclusive education though the term was first used in Canada in 1988 to replace integration; it has now spread to many countries.

2.3.1.1.1 The United Kingdom context

Bickenbach (2001:570) and Boyle and Topping (2012:63) say that disability has been a point of discussion in the western nations throughout their history. It was seen, however, from different perspectives such as political and economic contexts., Armstrong et al. (2010:15) state that, among the western countries, in the UK there were social and economic inequality concerns about the education system. Armstrong et al. (2010:18) further say that in the 1970s there was a very expensive special-needs education provision for children with severe disabilities. However, the 1974 Warnock report was the first report to acknowledge that learners' educational needs should be identified in the schools they attended. The report was seen as a good start for its contribution to discover unsuccessful children in mainstream schooling. The report also dealt with the broader context of special educational needs rather than health-related problems of an individual. However, Armstrong et al. (2010:24) indicate that the report's approach to special educational needs was not well-received because it did not provide guiding principles for resource allocation. Following this, the 1981 Education Act was passed which mandated learning opportunities for children with disabilities in mainstream schools. After such developments were seen in the UK, the number of learners with disabilities attending in special schools has started to decrease, and there has been an increase in the number of learners with disabilities attending mainstream schools (Walton, 2006:16). Later on, following the words of the Department for Education and Employment (DfEE) in 1997, the Labour government elected at that time gave attention to the British education system and the introduction of inclusive education (Dyson, 2005:63). The Special Educational Needs and Disability Act (SENDA) which created a much more opportunity for learners with disabilities to attend in mainstream schools (Walton, 2006:16).

Although Hodkinson (2010:61) says that special education in the UK has been in existence for more than 25 years and is still subject to dramatic development, Glazzard (2011:56) and Boyle and Topping (2012:55) write that inclusion and inclusive education became familiar in the UK after the UNESCO has drafted the Salamanca Statement in 1994. Some scholars have written about the education of blind people in the UK. For example, Cretu, Popovici, Sainsbury and Corley (2006:310) explain that there were several schools for the visually-impaired until 1981 in UK. However, French (2007:52) shows that the education for visually-impaired children had long had a place in the education history. French (2007:49) points to the Deaf and Blind Elementary Education Act passed in 1893 which showed the critical necessity for deaf and blind education. Cretu et al. (2006:309) also elaborate that a way to the notions of integration and inclusion was opened after the ratification of the 1893 Act. According to Douglas, McCall, McLinden, and Pavey (2009:41) following the 1972 Vernor report on education of the visually-impaired, the British government created an “inquiry” into to the education of the visually-impaired persons in 1968.

2.3.1.1.2 The United States context

In the 1800s, the United States began providing support for learners with visual impairments. Later in the 1832 the first residential school for the blind named the New England Asylum for the Blind (now known as the Perkins School for the Blind) led by Howe was opened (Friend, 2011:369; Mann, 2006:3, Smith Polloway, Patton, & Dowdy, 2008:4).

Some years later in the 1900, a part time education for visually-impaired learners was opened in Chicago Public Schools for the first time. The beneficiary learners were only the ones with low vision learners, i.e., those who were blind were not included. The learners with low vision were getting learning materials in Braille and were getting support from specially trained teachers. However, in the 1960s, an epidemic disease called *retrolental fibroplasias* (RLF) occurred in the US and victimized and left many babies with visual impairment. This incident caused a new era of revolution in the US history of visual impairment. The high number of visually-impaired learners needs drove their parents to advocate for the establishment of local public schools (Friend, 2011:369).

Hence, after the opening of the first residential school by Samuel Howe in 1832 and the occurrence of the epidemic disease in of Rubella in the 1960s, many other schools for the blind were launched. Nevertheless, before the passing the federal legislation law in the 1970s, schools in the US provided very limited programmes for children with disabilities. Only 20% of them were enrolled in public schools (Polloway, Patton & Dowdy, 2008:4). Again, Smith, et al. (2008:4) state that while 3 million children with disabilities received poor quality services, around 1 million were excluded altogether from the educational system. However, since the federal legislation was passed, many changes have taken place, including the opening of schools for children with different types of disabilities.

Farrel (2007:1) states that schools for visually-impaired persons were opened in the US because it was believed that those people were capable. Consequently, according to Mann (2006:5), the educational opportunities for the blind and visually-impaired learners in the US have shown many developments. Nowadays, both regular and residential schools are available for learners with visual impairment. Contributing to America's success in the spread of visually-impaired education, several laws and policies were drafted and played a big role. The Act to Promote the Education of the Blind, The Pratt-Smoot Act, Education for All Handicapped Children Act (PL-142), Individuals with Disabilities Education Act (IDEA), Instructional Materials Accessibility Act (IMAA), Section 504 of the Rehabilitation Act of 1973, The Americans with Disabilities Act (ADA) of 1991, The National Agenda for the Education of Children and Youths with Visual Impairments, including Those with Multiple Disabilities, and the International Policy Statements are the major laws and policies which have influenced the United States' education of visually-impaired learners (Mann, 2006:4-5). Most importantly, Boyle and Topping (2012:153) say that since the enactment of the US federal law PL-94-142 or the IDEA in 1975, inclusive education has been implemented in different ways in the country.

2.3.1.2 Developing Countries' Context

Walton (2006:14) states that inclusion originated in developed countries and it extended to developing countries, but, according to Armstrong et al. (2010: iv & xi), a discrepancy both in conceptualisation and implementation of inclusive education has been seen in the developed and developing countries. Developed countries have

better understanding and practice of inclusive education than developing countries. This is due to the many years of experience in developed countries over the developing countries. However, the UN is playing a crucial role in filling the gap observed in the developing countries.

Sirvastava, Boer and Pijl (2013:11) state that though a good move to sign the UNCRPD (2006) was observed, the case of learners with disabilities is not seriously considered in the education policies of many countries. Learners with disabilities in developing countries is still not gaining sufficient attention. Though support has been provided to developing countries by many international organisations, the result remains the same. The countries have not shown progress in including learners with disabilities. Sirvastava et al. (2013:11) further discuss that in India, learners with disabilities are excluded from the education policy of the country due to disagreements on discussions.

On the other hand, Walton (2006:17) discusses that enactment of legislation on inclusion in many developing countries such as Uganda and Zambia is seen as a positive move. In addition, Sayed, Subrahmaniam, Soudien and Carrim (2007: vii) state that both South Africa and India have protected the rights of marginalised groups in their constitutions. Naicker (2005:230) states that the Republic of South Africa showed its commitment to inclusive education by launching the White Paper 6 on Special Needs Education. Human (2010:1) indicates that Namibia also signed the Salamanca Statement on Special Education. Ethiopia, also signed different international conventions, agreements and declarations such as the 2006 UN Convention on the Rights of Persons with Disabilities, in which Article 24 emphasises inclusive education. The country has also ratified other agreements including the Universal Declaration of Human Rights (1948), the Convention on the Rights of the Child (1989), the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (1993) and the Salamanca Framework for Action on Inclusive Education (1994) (World Vision UK, 2007:9). The country, hence, declared that all international agreements the country signed are parts of the nation's constitution. Nevertheless, specific and direct legislation on visual impairment, in my opinion, is not specifically addressed in the constitutions of developing countries. Regardless of the legal coverage, Tumwesigye, Msukwa, Njguna, Shilio, Courtright and Lewallen (2009:135) indicate that visually-impaired children are inappropriately

enrolled in schools in East Africa for various reasons. This shows that developing countries including Ethiopia have a serious problem in implementing inclusive education especially in including the visually-impaired learners.

2.3.2 History, Practice and Status of Inclusion for Visually-Impaired Learners in Ethiopia

A problem that the world is facing is the exclusion of many people from participating in different aspects like political, social, economic and cultural life. This coincides with the fact that many persons with disabilities including persons with visual impairment in Ethiopia are excluded from many aspects of life and are not fully participating in the nation's political, social or economic issues, including education (Tirussew, Alemayehu, Belay, Fantahun, Moges, Sewalem, Tilahun and Yirgashewa, 2013:1; UNESCO, 2003:3).

UNESCO and the UN have been making relentless efforts in implementing Education for All. Though positive progress has been seen in this regard, there are still 113 million school-aged children not attending primary schools. Among these children, 80 million live in Africa especially in the lower income countries such as Ethiopia (UNESCO, 2003:3).

Most of the children especially with disabilities have been disadvantaged for many decades. In some countries, special needs schools were functioning. However, scholars argue that children with disabilities should be included in regular schools where all children learn together. Consequently, the principle of inclusion was adopted at the Salamanca World Conference on Special Needs Education in 1994 and was restated at the Dakar World Education Forum in 2000 (UNESCO, 2003:4). Following debate on children with special needs, many world governmental and non-governmental organisations came to an agreement that children with disabilities can be included in regular schools with special support (UNESCO, 1994: iii).

It is believed that the current situation of inclusive education in Ethiopia is the result of those United Nations agreements. Some researchers including Tibebu (1995:24) say that the history of special education in Ethiopia goes hand-in-hand with the introduction of modern education to the country. Again, Tirussew (2005:84) asserts that special education was introduced to Ethiopia by missionaries from abroad by

opening schools for the blind and deaf. However, it should not be forgotten that where the blind children were integrated in the Ethiopian Orthodox Church with their sighted peers from centuries ago. Assefa (2008:11) explains that the children who attended their religious education were expected to serve the church and spread the religion. Their way of learning was by rote memorisation.

After the Ethiopian People's Revolutionary Front (EPRDF) came into power in 1991, a new era began. Tekeste, (2006:21) points out that the scenery of the Ethiopian education showed a significant and meaningful change after 1994. Starting with the introduction of the Education and Training Policy, many special classes within ordinary schools started to emerge. The aim of the policy was to universalise primary education and expand secondary and tertiary education. According to the MoE (2012:4), the 2006 Special Needs Education Program Strategy has contributed a lot towards the movement of inclusive education in Ethiopia to meet the UPE, and the UN Convention on the Rights of the Child (CRC, Art.28).

The country has shown progress in the development of an education system which is open to all learners regardless of their differences like poverty, language, learning difficulties, gender and impairment. However, the MoE (2012: 4) states that there is still a gap in making education accessible to learners with special needs and actualising special needs education due to factors like lack of awareness about diversity and individual differences, rigid and poor teaching methods, lack of identification process and instructional principles, lack of conducive learning environments and inadequate assessment procedures.

Today, there are more than 30 organisations in Ethiopia which support the inclusion of learners with disabilities in general schools. Nonetheless, none of the learners or teachers receive professional assistance (MoE, 2006:7), although Lewis (2009:32) says that some developments such as the opening of the Adaptive Technology Centre for the Blind in Addis Ababa where they are training undergraduate and postgraduate learners show commitment. The centre is also planning to train school teachers who will train learners in computing. She adds that the government has shown full commitment to distributing computers to all schools in the country. The ILO (2004:9) also states that the National Association of the Blind (ENAB) which was founded in 1960 is supporting persons with visual impairment especially in

awareness creation and integration with the community, raising awareness on the situation of visual impairment and promoting their employment opportunities. She further outlines that ENAB administers primary boarding schools, prepares training programmes and works on the entrepreneurial skills of visually-impaired persons.

The present condition of inclusive education in Ethiopia is that there is no full inclusion in Ethiopian education system due to the large class sizes which is above 70 learners per class, lack of trained teachers in special needs education and shortage of resources and facilities in schools. Despite this, the country's stand is that learners with disabilities should attend schools together with learners without disabilities (Tirussew, 2005:120). Tirussew (2005: 85-86) adds that the current provision of schools for learners with disabilities at appears comprises a mixture of five types of schools:

- Special day schools (schools where children with the same type of disabilities attend during the day time);
- Special boarding schools (residential schools where children with the same type of disabilities attend during the day time and stay the night together);
- Special classes (classes in regular school settings where children with disabilities are placed);
- Inclusive schools (regular schools where children with disabilities are placed fully or partially in regular classes with children without disabilities); and
- Regular schools (schools where children with undetected disabilities are attending regular classes with others).

The Ethiopian Ministry of Health Disease Control and Prevention Department (2006:5) reports that according to the National Survey on Blindness and Low Vision there are 1.2 million blind, 2.8 million with low vision and 1.3 million with Trachomatous Trichiasis (TT) people in the country. Lewis (2009:50) emphasises that visual impairment is the most prevalent disability in Ethiopia next to motor skills impairment which affects 0.6% of the whole population of the country. Of these, the Ministry of Education's Education and Management Information System (2011:47) reports that in the 2010/11 academic year only 640 visually-impaired learners were enrolled in secondary school grades of 9 and 10 while 255 visually-impaired learners were enrolled in preparatory schools i.e., grades 11 and 12.

Etenesh (2000:5) indicates that there are positive practices of inclusive education in some schools in Ethiopia. For instance, the German Church School and one governmental school have made encouraging progress in the establishment of schools for the visually-impaired and mentally retarded. However, shortage of resources, support and unsuitable school environments are the major barriers to the inclusion of the learners. Though none of the studies or reports has mentioned the number of secondary school learners included or excluded in schools, Etenesh (2002:27) lists that there are four special boarding schools, one special day school and 23 special classes for the visually-impaired learners in Ethiopia at present.

2.3.3 Legal, Constitutional and Policy Aspects of Inclusive Education in Ethiopia

A clear understanding of the legal and constitutional aspects helps to identify the impact that barriers and opportunities may have on the lives of people. The laws and constitution impact the day-to-day activities of citizens (Secretariat of the African Decade of Persons with Disabilities (SADPD), 2010:21). Belaynesh (2009:2) says that implementing laws caters for rights like the right to learn and equality. Therefore, Mastropieri and Scruggs (2010: vii) believe that teachers, more than others, should know the legal issues about learners with disabilities.

According to the MoE (2012:5-7), legal and policy issues on special needs and inclusive education are available both at international and national level. The history of disability-related laws dates back 160 years. The legal aspects which existed before 1950 aimed at providing care or rehabilitation services. Since then, however, the focus has been changed to special-needs related issues.

The WHO (2011:217) says that for countries' effective implementation of their inclusive systems of education, they must have legal coverage, prepare policies and allocate appropriate finances. The WHO (2011:XXI) adds that after the United Nations Convention on the Rights of Persons with Disabilities came in to effect, disability has been viewed from the human rights perspective. The SADPD (2010:25) states that Ethiopia has been signing the United Nations conventions on human rights and rights of persons with disabilities starting during the Emperor Haileselassie's regime who proclaimed order No 70/1971 so as to conceptualise disability in a global context and to organise persons with disabilities under their own

administrative body, but the past government's commitment to implementing the conventions in the country was not significant compared to the current regime.

The international laws which still have impact on the today's practice of special education are the Universal Declaration of Human Rights (1948), the UN Convention on the Rights of the Child (1989), the Jomtien World Declaration on Education for All (1990), the Standard Rules on the Equalization of Opportunities for Persons with Disabilities (1993), the Salamanca Statement and Framework for Action on Special Needs Education (1994) and the World Education Forum and Framework for Action (Dakar 2000) (MoE, 2012:5-7). These laws and policies have also impacted the current Ethiopian approach to special education. Strengthening this idea, the constitution of the Federal Democratic Republic of Ethiopia article 9 (4) states that all international agreements signed by the country are considered as part its constitution.

2.3.3.1 The Federal Democratic Republic of Ethiopia (FDRE) Constitution

Article 9 sub-article 1 of the FDRE Constitution states that the constitution is considered as the highest law of the country. This implies that any law, practice, act or decision which is against the law will not be accepted. As a result, citizens, organisations, legal bodies or others functioning in the country should respect the constitution and act accordingly.

The current government of Ethiopia, in line with the international conventions, declarations, agreements and frameworks, has established education as a human right in its constitution; especially articles 41 and 91 give attention to providing support and allocating resources to the disadvantaged people of the country (Belaynesh, 2009:4, MoE, 2012:9; SADPD, 2010:25). What is more, the FDRE Constitution, in its preamble, states that the nation and its peoples are committed to building a stable, prosperous and democratic nation. In doing so, the citizens of the nation are expected to respect individual rights and live in harmony based on mutual respect and equality. This implies that persons with disabilities, as citizens of the country, are given place in the constitution. The peoples of Ethiopia through their representatives have approved the rights of persons with disabilities including those who are visually impaired. Article 1 of the FDRE constitution is a good example of this approval. The article calls the state a democratic state which treats its citizens

equally, but the constitution does not confine itself to the democratic rights of citizens. It also consists of human rights. Article 10 of the constitution points out that both human and democratic right should be respected. The constitution further declares under its article 13 sub-article 2 that the basic rights and freedoms of citizens which include human and democratic rights should be given meaning according to the principles of UDHR, ICHR and international instruments adopted by the country. This is a good example of the country's commitment to address the rights of its citizens by looking into the international agreements on human and democratic rights. This again coincides with the international conventions, declarations, frameworks and agreements on the rights of persons with disabilities, including visually-impaired persons.

Ethiopia is a country, as mentioned above, which has a constitution that treats the citizen equally. Article 25 of the constitution states that every citizen of the country is equal before the law without any discrimination based on any kind of status or background. This confirms the right of persons with disabilities not to be discriminated against in terms of social, political, economic or other rights. Their equal treatment includes their right to education. This is again supported by article 41 sub-article 3. The article states that every citizen, regardless of his/her background, has equal access to publicly-funded social services including education and the country, as stated under sub-article 4, must allocate resources to promote health, education and other social services. Similarly, article 90 sub-article 1 dictates that citizens of the country should get access to education and other services according to the country's capacity to provide them.

The usefulness of the FDRE constitution has gained recognition by international organisations such as the ILO. The ILO (2004:5) articulates that Ethiopia has included "disability provisions" under its constitution of 1995, Labour Proclamation 1993 and the Federal Civil Servant Proclamation 2002. The Federal Civil Servant Proclamation 2002 Article 13 is an article forbidding any kind of discrimination against citizens of the country because of their differences including disability. It further says that the current government has shown its commitment to address the needs of peoples with disabilities in the country via the constitution. In the final analysis, the ILO (2004:6) appreciates that Ethiopia has shown its commitment to

persons with disabilities by ratifying the ILO Convention concerning Vocational and Employment (Disabled Persons) No.159 (1983) in 1991.

To sum up, the constitutional measures taken by the country are good steps for the benefits of the citizens of the country, but, what really concerns the researcher is that there is no specific article or sub-article which clearly states the rights to education of persons with disabilities except indirectly. Therefore, as Hiwot (2011:71) states, attention should be given to Article 9 sub-article 4 of the constitution which says the international agreements signed by Ethiopia form part of the constitution of the country.

2.3.3.2 The revised family code of Ethiopia

This family code of the country gives due regard to the education of children. It says that parents are responsible to the education of the children. Article 50 of the civil code reads as: “The spouses shall, in all cases, co-operate, to protect the security and interest of the family to bring up and ensure the good behavior and education of their children in order to make them responsible citizens”.

This shows that the family code guarantees the children their right to get education to learn and the responsibility of their parents for bringing up their children. The Revised Family Code in article 260 further says that it is still the task of the care-givers to make sure that the child gets either a general education or professional training which matches his/her age and abilities. This has two implications: first, the care giver or guardian is responsible to ensure the child receives education or training; second, the child should get appropriate education that goes with his/her background. The articles of the code, however, do not say that these rights are assured only for ‘normal’ children; rather, it is general. Therefore, one can understand that children with disabilities, including the visually-impaired, have such rights given by the Revised Family Code of the country even though they are not specifically said in the code.

2.3.3.3 The Education and Training Policy

The General Education and Training Policy of the Federal Democratic Republic of Ethiopia is another measure taken by the government in promoting the inclusion of all types of learners in schools to achieve the Millennium Development Goals and

Education for All (Belaynesh, 2009:5; MoE, 2008:4). In addition, the policy was drafted to solve problems such as limited access and inequitable distribution of schools and poor quality of education (Hiwot, 2011:75). In doing so, it launched successive Education Sector Development Programmes (ESDP) such as the ESDP I (1997/98-2001/02), ESDP II (2002/03-2004/05) and ESDP III (2005/06-2010/11) (MoE, 2008:7).

Of the main objectives of the policy one talks about human rights, democracy, justice and equality. This shows that the Education and Training Policy gives attention to basic human right issues. Among the rights, the right to education is one. The policy's objective seems to show covertly that there was no equal and fair distribution of education in the country. Hence, a new approach to education is designed. This supports visually-impaired learners' right to education. This is again supported by the other objective of the policy which says, "To enable both the handicapped and the gifted learn in accordance with their potential and needs." The policy section 3.2.9 again says that special-needs education will be given to learners with special educational needs. For the realisation of their education, the ETP (1994:27) promises that material and other facility provisions will be taken in to account, but, Hiwot (2011:76) indicates that scarce materials and other facilities are still problems in Ethiopian schools.

Writers such as Belaynesh (2009:5) say that the policy discourages persons with disabilities not to be either recruited or trained as teachers. This forced the Ministry of Education to design the 2006 special-needs education strategy. The strategy has played its role in promoting inclusive education in the country. Above all, the strategy has made clear how education stakeholders and line managers are to take action during the implementation of inclusive education. The MoE (2006:1) states that the strategy was designed to implement Education for All after realising that there was exclusion of learners in the country. Its other aim was to secure access and quality education for disadvantaged learners. The strategy emphasised the aspect that all children can learn and many of them need some sort of support. Again, the MoE (2006:5) indicates that due to the design and implementation of the policy, access to education has increased, and concludes that although the policy had drawbacks in addressing special-needs education, it is now included as part of the education sector development programmes. It also made clear that the type of support to be

provided to those who need it, as mentioned in the policy, should have clear plans and goals to achieve.

2.3.3.4 Special-needs education programme strategy

Hiwot (2011:78) underscores that the MoE prepared this strategy to make changes in the education system. She explains that the strategy is taken as one component of ESDP III and adds that the strategy gives special attention to inclusion. It also consists of various strategies which help to implement UPE and EFA. The strategy, according to the MoE (2006:12) is developed with the aim to:

- Implement the Education and Training Policy, and the international principles endorsed by the government to honour the rights of citizens to education;
- Develop and implement guidelines for curriculum modification and support system development in schools for learners with special needs;
- Facilitate the participation of learners with special needs in technical and vocational education and other higher education institutions;
- Strengthen special needs education programmes in teacher education institutions; and
- Improve supply of trained manpower and appropriate materials to schools and other learning institutions.

Hiwot (2011:79), however, expresses her concern that the strategy's objective to implement the Education Policy and international principles is in doubt because there is a mismatch between the objectives stated and the practice observed. She also doubts the implementation of the other objectives, too.

2.4 TEACHING LEARNERS WITH VISUAL IMPAIRMENT IN INCLUSIVE SETTINGS

Before looking at the teaching of learners with visual impairment in inclusive settings, discussing the concept of visual impairment, its classification, prevalence and causes of visual impairment and characteristics of persons with visual impairment is important. In addition, considering the impact of vision loss on the learners' learning and how to teach these types of learners are vital issues. Having understanding on

these topics, helps to better explore visual impairment and related issues. Similarly, Mwakyeja (2013:22) discusses that people, especially teachers, should first know the impact of the impairment on the learners learning before teaching them. It is also important to know the importance of vision for learning because, as scholars like Smith, et al., (2008:320) state, around 80% of the information we gain from our environment is by vision. Hence, some sub-topics are discussed below.

2.4.1 Visual Impairment and its Prevalence

Visual impairment is defined by many scholars differently, but, what they have in common is what Carney, Engbretson, Scammell and Sheppard (2003:3), Douglas et al., (2009:19), Friend (2011:370) and Mwakyeja (2013:21) define as vision loss. However, some of these scholars such as Friend (2011:370) and Mwakyeja (2013: 21) and others like Mastropieri, and Scruggs (2010:94) state that visual impairment has both legal and educational definitions. The legal definition provides for two categories. The first is low vision and the other is blindness. They say that the legal definition of blindness is when someone has a visual acuity of 20/200 or less than this which means that an individual can see at 20 feet what is normally seen at 200 feet whereas the legal definition of low vision is defined as someone having visual acuity of 20/70 which means that an individual can see at 20 feet what is normally seen at 70 feet. Low vision and blindness, as defined by Friend (2011:370), define people with some vision but who have difficulty in accomplishing visual tasks which range from mild to severe impairments, while those people who have no vision or any perception of light are characterised as having profound visual impairment or no vision respectively. On the other hand, the educational definition of visual impairment is based on its effect on learning. Hence, the educational definition of visual impairment is considered in this research.

Carney et al. (2003:3), Mastropieri and Scruggs (2010:95) and Mwakyeja (2013:21) posit that visual impairment can be congenital or adventitious. According to Carney et al. (2003:3), congenital vision loss could be caused by prematurity, genetic diseases, prenatal and perinatal infections and maternal substance abuse whereas adventitious vision loss occurs after birth because of illness or accident.

The distribution of visual impairment in the world can be categorised according to age, gender and geography. People whose are 50 years and above account for 82%

of blindness in the world whereas children below the age of 15 are estimated to number 1.4 million. Again, females are at higher risk than males of being visually-impaired. When we see the geographical distribution of visual impairment, 90% of the world's visually-impaired people live in developing countries. Of the 161 million visually-impaired, 124 million had low vision and 37 million were blind in 2002 (WHO, 2002:1). The WHO (2002:2) states that Africa accounts for about 17%. Regarding the prevalence of visual impairment in Ethiopia, Yemane, Alemayehu and Abebe (2006:35) discuss that the national prevalence of blindness and low vision was 1.6% and 3.7% respectively. However, Jansen, Veldman and Elias (2008:1) state that the country has a prevalence of visual impairment of 1.25%. Of this figure, 20.4% are partially sighted and 11.9% are blind. Many of the types of visual impairment in Ethiopia are preventable and curable (Jansen, et al., 2008:1). When we see the prevalence of visual impairment in Tigray Regional State, Yemane et al. (2006:35) based on their 2005/06 survey at national level indicate that the prevalence of blindness in Tigray was 1.5% while the prevalence of low vision was 2.9%. This means that Tigray was found to be ranked 5th in the prevalence of blindness next to Oromiya which accounts for 1.6%, and 5th in low vision following both Oromiya and Dire Dawa City Administration.

2.4.2 The Effect of Vision Loss on Learning

Downing and Chen (2003:56) state that vision is the most important sense for learning. Again, Smith et al., (2008:320) state that around 80% of the information we gain from our environment is by vision. The loss of vision means missing a lot. What aggravates it, as Human (2010:54) and Knouwds (2010:43), state is that the impairment and the perception of it by learners with visual impairment are barriers to learning. Bishop (1996:45) explains that we discover our environment predominantly through our eyes. So vision loss results in losing information from the surroundings. This then results a problem in the cognitive development of the individual. In addition, Human (2010:4) states that blindness also affects how the visually-impaired interpret the outside world beyond its effect on his/her learning.

As to Bishop (1996:44), a totally blind individual will depend on other senses, but they do not help as the eye does. Because of vision loss, Fazzi (2002) and Bruce and Maggit (2002) cited in Gray (2005:180) add that visually-impaired learners learn

in a different way from other learners. This is due to the fact that they are unable to use their eyes to get information. These learners learn by their other senses but the information they get through the other senses is not as organised as they get through the eyes. As a result, their development is not like their sighted fellows. In addition, due to their vision loss, these learners cannot easily understand non-verbal communications and do not make friends easily.

2.4.3 Teaching Visually-Impaired Learners in Inclusive Classrooms

Teaching in an inclusive setting is not the same as teaching in another setting. Inclusion is now demanding a lot from teachers. It requires teachers to teach in a new and different way than they are experienced with. Teachers have to develop new techniques for including learners with disabilities because inclusion depends on learning settings. Teachers who have the experience of teaching learners with disabilities in a segregated setting need to know the new method of implementing individualised programmes for these learners in the regular classroom while teaching their peers at the same time (Loreman, Deppler & Harvey 2005:15). Further, Deiner (2010:11) recommends that a much more commitment is required from teachers of inclusive classrooms. He adds that it is the teacher's responsibility to make the learners with disabilities feel safe and included in the classroom.

Schools evaluate learners and determine whether they have disabilities or suspected disabilities. When learners are suspected of having visual impairment particularly, they must be sent to referral team to determine if appropriate support can be given to them in the general education classroom. If the team (referral team) believes that more evaluation is needed, the learners are again referred to another team called special education assessment team. Then, an assessment plan is developed and presented to parents of the learners to get permission for implementation. The assessment should clearly indicate learners' intellectual functioning, academic achievement, and communicative status. It must be done carefully using instruments like Braille and must assess the suspected sensory impairment area. The assessment has to include the learner's deficiencies and capabilities of performance (English, 2011:301).

The academic assessment tools used for identifying partially sighted learners can be the same used for sighted ones but with little or no modification. However, to identify

learners with severe sight problems may need adaptation of the assessment tool like transcribing some parts of the test into Braille. This has to be included in the assessment report. Most of the time, the assessments of learners to decide whether they have sight problems or not, is done by specially-trained professionals. These professionals most commonly use Snellen chart which has letters of different sizes to test visual acuity. A mobility specialist may also contact the learners found with visual impairment to determine their mobility skills and to suggest what kind of assistance they can be provided with. Other specialists may also evaluate the learners' ability to use low-vision aids and printed materials. The data gathered by the different specialists is used by the Individualized Educational Programme (IEP) team to develop each learner's IEP (English, 2011:301). Furthermore, Reschly (1996:40) says that early identification of learners with disabilities does not only help to develop IEP but also helps to allocate budget and provide special education services.

According to Cox and Dykes (2011:69) learners with visual impairment in general classrooms usually get assistance from vision specialists. The vision specialist can assist in ways like how they can learn by other senses, in instructional adaptations, curricular adaptations, and selection of resources for the learners. The general educator, therefore, should collaborate and cooperate with vision specialists in order to get information from the specialists about the needs of the learners. The vision specialist can, again, help on identifying the services to be included in the IEP. In addition, English (2011:302) says that specialists can help visually-impaired learners by training them how to be familiar with the school environment and can evaluate their ability to use low-vision aids and printed materials. Generally, teachers who consult specialists in the area can better satisfy the needs of their learners and can be more inclusive than others.

2.5 CHAPTER SUMMARY

In this chapter, the experiences of developed and developing countries on the inclusion of visually-impaired learners were explored. This helps to understand the international experiences of the topic under discussion. As Ethiopia is part of this world and the research site is in this country, the country's history, practice and status of inclusion for the visually-impaired learners was discussed. According to the

discussion in this chapter, Ethiopia has shifted its education policy to the notion of inclusive education. This shift has come because of the United Nations' agreements on education policies. However, Ethiopia's practice of the inclusion of visually-impaired learners in secondary schools seems unsatisfactory for many reasons which may include, as the MoE (2012:4) mentions, lack of knowledge about diversity and individual differences, rigid and poor teaching methods, and lack of identification process and instructional principles, lack of conducive learning environments and inadequate assessment procedures.

The legal, constitutional and policy aspects of inclusive education in Ethiopia show that there are favourable conditions for the inclusion of visually-impaired learners in the education system of the country, but the documents talk about visual impairment under a general concept. The next chapter provides a literature review of barriers that hinder the inclusion of visually-impaired learners and the strategies that can be used to realise the inclusion of these learners.

CHAPTER 3

THE BARRIERS TO THE INCLUSION OF VISUALLY-IMPAIRED LEARNERS

3.1 INTRODUCTION

This chapter discusses the barriers that hinder the inclusion of visually-impaired learners and the strategies that can be used to realize the inclusion of these learners. The first part deals with the social and cultural barriers. It also discusses the environmental barriers in general and the physical school and classroom environments effects in particular. In addition, it illustrates academic barriers to inclusion; for example, curricula, teachers' training, professional collaboration, educational assessment, resource and support and teacher-learner ratio and class size barriers. Again, it explains visual impairment itself as a barrier. The second part of this chapter also elaborates on the strategies that can be used to the inclusion of visually-impaired learners. It discusses accepting diversity, teachers' inclusion, classroom adaptations and use of cooperative learning, peer learning, collaborative teaching and consultation, and assistive technologies and materials.

3.2 BARRIERS WHICH HINDER THE INCLUSION OF LEARNERS WITH VISUAL IMPAIRMENT

Enerstvedt (1996:4) discusses that blind people have many obstacles in life and are being discriminated against even today by society. In some countries, their impairment is considered as a sin and punishment by God and some communities even kill persons with visual impairment. Similarly, Farrel (2007:1) says that persons with disabilities were killed in ancient times believing that they were useless. Mutisya (2010:40) shares this idea saying that these people were considered as useless and they are even today considered as "contagious". Likewise, with a particular focus on visual impairment, a study by Gray (2005:188-189) shows that there is still discrimination against learners with visual impairment at schools.

The MoE (2012:43) says that most Ethiopians believe that disabilities are God's punishment of those whose ancestors were involved in wrong doings or sins. Hence, any child who is exposed to disability is considered as having evil spirits. Consequently, parents of children with disabilities in Ethiopia have been hiding them at home and denying them access to education. The MoE (2012:43) adds that other

negative attitudes of the community are like “stereotypic beliefs”. They believe that if a pregnant mother looks at a person with disability, she will give birth of a child with disability. In other words, the belief is that a mother who saw a visually-impaired person during her pregnancy will give birth to a blind child.

Whenever there are misunderstandings and wrong beliefs about the visually-impaired, it leads them to face lower social class categorisation and rejection from participation in different life events. The occurrence of these misconceptions will lead to the violation of the visually-impaired basic rights such as the right to education (Etenesh, 2002:10).

3.2.1 Social and Cultural Barriers to the Inclusion of Visually-Impaired Learners

> *“Shared values make cooperation possible, just as lack of them makes it difficult for people to work together.” UNESCO, 2005:22*

Boyle and Topping (2012:165) state that cultural norms, social inequality and varied views of the roles of education in the society can serve to deter progress towards the inclusion of learners with visual impairment. Boyle and Topping (2012:165) state that teachers play the main roles in addressing learners with different backgrounds and improving the culture of the school and its social structures.

According to Simpson (2004:66), the values, expectations, language and behaviour of the learners and their families can be very different from others. The learners who are from a different cultural background than their fellow learners or teachers will feel like strangers in the classroom.

From the psychological point of view, impairment is a social disorder. Studies have indicated that there are differences in the social relationships of learners with and without visual impairments. The learners without visual impairments have better social relationships than learners with visual impairments. Blind learners are also more likely to have fewer social relationships than learners with partial sight.

A study by Human (2010: iii) found that there is still less social inclusion of learners with disabilities including visually-impaired learners with their able peers. This

shows, as Etenesh (2002: xi) reveals, that there is still exclusion of visually-impaired persons by the community.

Finally, Bishop (1996:46) says that the visually-impaired persons do not look into a mirror and reflect on what they look like, but society does look into them and gives feedback. This metaphor literally means that it is the community that has a big role in the lives of the visually-impaired learners and can change the social emotions of the visually-impaired learners and value them in every aspect of their social activity.

3.2.1.1 Attitude

Gezahegne and Yinebeb (2010:89) found that negative attitudes towards persons with disabilities is one of the factors affecting the development of inclusive education in Ethiopia. Knouwds (2010:48) posits that the attitudes of the community in general and those of teachers, peers, parents have an impact on the overall development of learners with visual impairment. He also states that social attitudes play a key role in the social and emotional construction of learners with visual impairment. As mentioned above, positive attitudes of society motivate the learners and contribute to positive development in every aspect of their lives and vice versa. For instance, when sighted peers show positive attitudes towards the visually-impaired learners, they develop self-esteem and show sympathy and performance in their academic achievement. The same is true with teachers: when teachers encourage visually-impaired learners and show them respect and positive attitudes, the learners start to develop confidence. On the contrary, negative attitudes that the school community has towards the visually-impaired learners affect the learners negatively in many spheres of life.

UNESCO (2005:22) states that the negative attitudes of the teachers, learners and society are the main barriers to inclusion. A study by Tibebu (1995:93) found that both general and special education teachers have negative attitudes towards including learners with disabilities in their classrooms although, according to Asrat (2013:61), recent research has shown that teachers' attitude is central to the successful implementation of inclusive education. Another study conducted by Knouwds (2010:111) shows that there are many teachers and learners who have negative attitudes towards visually-impaired learners. Again, research by Gezahegn and Yinebeb (2010:89) and Asrat (2013:61) indicate that teachers do not welcome

learners with disabilities in their classrooms because they believe that the learners are burdensome and unrewarding. This shows that unless negative attitudes towards visually-impaired learners are improved, these learners feel excluded and nor do others accept their inclusion at school.

3.2.2 Environmental Barriers to the Inclusion of Visually-Impaired Learners

Of the many barriers to the practice of inclusion, environmental barriers are paramount. Sellman (2012:4) states that the environment in which learners learn and how to provide a suitable environment are the primary concerns for meeting special needs. Mutisya (2010:34) also states that teaching learners with diverse abilities in itself is a challenge. Teaching these learners in a suitable environment is a further challenge. However, if the learning environment is conducive, Taylor (2009:121) states that it facilitates and supports learning, the mind and cognition.

Bishop and Rhind (2011:179) specify that environmental barriers include lack of access to buildings, classrooms and accommodation. Similarly, according to Frenzel, Pekrun, and Goetz (2007:478), the learning environment includes school buildings, instructional materials, and teacher-learner and learner-learner interaction. In addition, the MoE (2012:42) has mentioned the barriers related to learning environment and school related factors such as lack of organisation in the learning/teaching centres, lack of understanding of the inclusion philosophy by teachers and the school community, lack of other proper and adequate facilities and infrastructure such as sanitation facilities, lack of or inadequate adaptations in public and private buildings to allow easy access and mobility of persons with disabilities, large teacher/pupils ratio (overcrowded classes), and poor teaching and learning approaches.

The following quotation by Fougeyrollas and Beauregard (2001:187) summarises the abovementioned scholars' views of environmental factors:

> Environmental factors make up the physical, social, and attitudinal environment, in which people live and conduct their lives. The factors are external to individuals and can have a positive or negative influence on the individual's participation as a member of society, on performance of activities of the individual, or on the individual's body function or structure. (WHO, 1999:22)

Mary (2008:66) indicates that the physical environment has an impact on learners with disabilities' access to learning and their academic performance. Considering its importance, Mwakyeja (2013:22-23) discusses that the learning environment should be conducive to visually-impaired learners, but if the environment is not such a suitable, it will not provide for their special educational needs. Mutisya (2010:34) again views that learners' needs and the inability to access their environment contributes to exclusion from schools. Hence, the learning environment should be organised in order to accommodate diverse learners and their varied learning needs.

3.2.2.1 The physical school environment and its accessibility

Lewis and Doorlag (2011:150) state that the main concern of any environment is the protection of its inhabitants. This is important to all learners but special attention should be given to learners with physical and sensory impairments (such as visual impairments). UNESCO (2009b:9) opines that both school and classroom environments are barriers to the implementation of inclusive education when they are not inclusive. Hence, UNESCO (2009b:12) suggests that teachers, parents and education planners should create a friendly environment in schools and communities. If these bodies are able to create such an environment, there is a belief that the barriers will be reduced.

The school physical environment has to be accessible. Lewis and Doorlag (2011:150) say that school and classroom accessibility is a main concern in education. Lewis and Doorlag (2011:165) further say that accessibility is most often seen in relation to environmental factors. In light of this, Sophal and Fox (2007:14) say that accessibility means everyone has equal opportunity to access education, including the "built environment". Accessibility should not be discriminatory. In developing countries such as Ethiopia accessibility can mean having access to facilities such as toilets, school buildings, water supplies and blackboards. Lewis and Doorlag (2011:165) state that accessibility can be seen from the aspect that the wheelchair learner is not able to reach a school fountain to drink from it. A community centre is inaccessible if it does not have stairs so that young and old people can reach it. When information is presented only in one way it may not be accessible to the addressee.

Kaplan (2007:18) points out that our educational experience can be affected by space, light, materials and colour of the school. Schools can adjust these elements in order to address the needs of learners and staff but many schools are found to be built without consulting the school community. For this reason, many people are facing unconducive physical environments at school, whether too hot or too cold, inaccessible or poorly designed. This problem can be addressed by engaging the school community in designing or re-designing the school. It seems difficult to include the school community in designing the school because of their architectural experience but the school community can participate in this process by sharing their opinions on how it should be designed. They can participate in sharing their views of how the school buildings and grounds should look. This inclusive participation of the school community will help them to have a feeling of pride and belongingness. It can also create a school space which is inclusive. This will also have a positive side in creating a school that better fits its community by incorporating cultural elements into the school buildings and grounds. However, research by Knouwds (2010:112) reveals that the school environments are not inclusive.

3.2.2.2 The physical classroom environment

Kuuskorpi and Gonzalez (2011:2) stress that the teaching and learning environment has not shown improvement over the past century. In addition, Lippman (2010:1) say that 20th century constructivist concept viewed the learner as active and the environment as passive. This implies that learning environment has been affecting learning for 100 years.

Lewis and Doorlag (2011:150) state that the physical classroom environment includes the classroom itself and its furnishings. This physical classroom environment has an effect on both the teachers' and learners' behaviour. In light of this, Lewis and Doorlag (2011:151) point out that the comfort of the learners and teachers depend on classroom facilities such as ventilation, lighting and noise level. Unless these facilities are well designed, they may negatively affect the teaching and learning process especially for visually-impaired learners. In addition, Martin (2005:93) argues that the classroom layout has an effect on the social interaction of teachers and learners. Similarly, Martin (2005:93) states that the space and furniture set-up of a classroom affects the implementation of educational goals. As a result,

Martin (2005:93) says that a poorly planned classroom set-up may affect the teaching and learning process.

Brown, Packer and Passmore (2013:230), who conducted a study on the adequacy of the regular early education classroom environment for learners with visual impairment, report that the provision of vision aids and equipment was found to be poor. Brown et al (2013:224) provide an overview of reports that state that appropriate physical accommodations are not provided in regular classrooms.

In addition, according to Demetros (2007:15), the seating position of the visually-impaired learner can affect his/her learning. The Design Council (2005:25-26) posits that less attentive and unsuccessful learners are affected by seating arrangements. Hannah (2013:1) supports this in saying that when there is poor arrangement of desks like that of wall art and resources, the classroom does not present a positive learning environment. Hannah (2013:2) argues that today's classrooms having desks aligned in rows do not promote interaction. These types of classrooms make learners work as individuals. This, then, will negatively affect visually-impaired learners' learning by becoming an obstacle to working with others. As a result, Westwood (2011:43) advises that desk arrangements should be modified for visually-impaired learners.

Martin (2005:99) notes that the number of learners learning in the same classroom affects learning. For instance, when the class size is big, there will not be enough space for movement around the classroom for learners to be involved in different activities. Also, when there are too many learners in a classroom, there may be a shortage of resources. This will affect all learners including visually-impaired learners and have an impact on their inclusion. Similarly, Martin (2005:99) found that there is a direct correlation between class size and movement limitation and class size and classroom distraction. When the number of learners increased, movement limitation and distraction increased. Martin (2005:99) states that when the number of learners in a classroom is small, there will be smooth interaction between the teacher and learners.

3.2.3 Academic Barriers to the Inclusion of Visually-Impaired Learners

Under this section some barriers related to academic aspects which may influence the inclusion of visually-impaired learners have been explored. Academic barriers such as curricula, professional training, professional collaboration, educational assessment, resource and support and teacher-learner ratio and class size are discussed in detail.

3.2.3.1 Curricula

Loreman et al. (2010:8), UNESCO (2003:10) and the MoE (2012:45) state that school curriculum plays a vital role for the effective implementation of inclusive education. Smith et al. (2008:526) again stress that the curriculum for secondary school learners with disabilities is crucial. They further say that even though teachers of the learners are well-trained and efficient professionals, if the curriculum is not designed according to the needs of the learners, the learners will not be able to benefit from their education. UNESCO (2003:16) agrees that curriculum may hamper inclusion. Mutisya (2010:35) believes that the curriculum sometimes is rigid and difficult to amend. Regarding the flexibility of curriculum, Mpya (2007:39) and Fraser and Maguvhe (2008:86) state that a rigid curriculum may not satisfy the learners' educational needs. As a result, it can be a barrier to visually-impaired learners' learning. Therefore, Mpya (2007:39) says that flexible curriculum demands flexible, inclusive teachers for its effective implementation.

A study by Mwakyeja (2013:69) found that curriculum is an obstacle for teachers' collaboration (co-teaching). In addition, a study by Anto (2004:24) reveals that modifications and adaptations to curriculum and teaching approaches have not yet been made. A flexible curriculum is crucial for the inclusion of visually-impaired learners. Mutisya (2010:35) argues that the curriculum should be sensitive to the context of the learners. Teachers should consider the varied educational needs of their learners. Therefore, factors which may hamper the implementation of inclusion should be identified and addressed in order to recognise the Individuals with Disabilities Education Improvement Act (2004) stand that learners with disabilities have the right to access the general education curriculum (Paulsen & Sayeski, 2013:39). So, the curriculum for an inclusive classroom, according to Michel (2008:30), should have the characteristics of age-appropriate and level-appropriate

activities. It should be a single curriculum that is accessible to all learners including those with special educational needs. In addition, the curriculum must allow teachers to use “multi-level teaching” in order to satisfy the needs of the diverse learners.

According to the MoE (2012:45), a school curriculum is inappropriate when :

- There are inadequate educational facilities, equipment and service for children with special needs including those with disabilities.
- There are inadequate trained personnel who use rigid teaching approaches which may only benefit the average learner.
- There is almost no provision for educating some groups of learners such as the gifted and talented as well as those living in difficult circumstances;
- There is irrelevant and overloaded content in the curriculum;
- Poor assessment procedures are used, which do not consider learners with special needs;
- There is a failure of the curriculum to address the specific subjects that would cater for special needs of learners for lifelong education;
- The curriculum content is too wide making it difficult to assist learners with special needs;
- There is limited flexibility in the curriculum because learners are exposed to the same curriculum and are expected to pass same examinations. Some learners cannot cope with the extensive content;
- Assessment or evaluation criteria is too examination-oriented;
- Assessment is geared towards the spirit of competition rather than co-operation; and
- Time allocated for the subject content coverage and examination is the same for all learners.

As a result, Mutisya (2010:35) believes that there has to be flexibility in providing for learners’ diverse educational needs. Otherwise, if the curriculum does not consider the learners or if it is not learner-centred, as Fraser and Maguvhe (2008:85) say, it will affect visually-impaired learners from learning and hamper their full participation in education. In addition, Mpya (2007:40) states that the curriculum should be written in Braille and educators should have the skills of how to teach Braille and how to use

audio materials. Therefore, according to Smith et al. (2008:526), the curriculum for learners with varied educational needs should be designed based on a long-lasting outcomes and with the consideration of current needs in order to meet learners' needs and it must be quick to respond, facilitate interaction, socialisation among learners with disabilities and give attention to their transition to the higher levels of education.

A study by Asrat (2013:66) reveals that lack of adapted curriculum is one of among the many factors influencing the implementation of inclusive education. Additionally, though inclusive classroom teachers have the autonomy to adapt and modify the curriculum in order to make it suitable to their learners' needs, they were not observed contributing anything to the curriculum adaptation.

3.2.3.2 Professional training

Good teachers understand the desires of their learners. As a result, they base their teaching on the learners' background. Inclusive education helps teachers to accept learners' background. However, to teach learners with diverse backgrounds, teachers need to have the correct knowledge, skills and attitudes (Demetros, 2007:25). Teachers are key role players for the realisation of inclusive education. As important as parents and the community are, teachers are more than key players – they are priceless resources. This includes the attitude to appreciate diversity and giving recognition to inclusion. They play a big role in the lives of the learners both inside and outside the school. Thus, inclusive learning has direct implications for teachers (UNESCO, 2005:21). By the same token, Mariga, McConkey and Myezwa (2014:90) discuss that the effective practice of inclusive education is highly dependent on the attitudes and skills of the teacher, but teachers may not have enough previous knowledge and skills about inclusive education and how to implement it. They may have little previous experience of teaching learners with disabilities. Tirussew (2005:109) put that teachers are teaching learners with disabilities including visually-impaired learners without receiving any kind of training and administrative assistance. As a result, teachers will find it demanding. A recent study by Awetash (2015:77) also reveals that teachers do not have the competence and do not receive training to teach visually-impaired learners in schools.

To play the role, therefore, teachers should get both in-service and pre-service professional training. Ainscow et al. (1998:30) and Mutisya (2010:37) support this idea saying that teachers' training in pre-service and in-service helps considerably in bringing educational change. In other words, teachers are the main actors to bring educational transformation to the classrooms. Hence, the OECD (2009:49) says that teachers should receive continuous professional development training. Equally, Asrat (2013:61) believes that teachers must have competence and confidence in their profession. Educators who are not professionally prepared to teach learners with disabilities, will clearly face challenges. They do not even feel confident for the reason that they do not have knowledge about disabilities. The teachers may be overly concerned that they may do something wrong to the learners. Loreman et al. (2005:15) also indicate that parents wonder whether teachers know their children's disabilities and can teach them according to their needs. In addition, Smith et al. (2008:526) indicate that most of the time teachers are trained as content specialists than being trained in such a way that they can meet the diverse needs of learners. Consequently, Stofile and Green (2007:59) indicate that if teachers are not trained in inclusive education, the probability of accepting it is low. This will lead to the argument by Lemma (2000:32) that unless we invest in professional training and knowledge of teachers, we are hindering the future of our children.

Hence, teachers should get adequate professional training in relation to how to teach and manage in inclusive classrooms (Mpya, 2007:40). A study by Gray (2005:188) in Northern Ireland shows that though some teachers get training before they start teaching; there are many who do not get training on how to teach learners with visual impairment during their early years of work. As a result, Loreman et al. (2010:7-8) state that an inclusive classroom teacher should have the skills, knowledge, and attributes of teaching learners with different learning needs. These are the concerns of every teacher in order to include learners with diverse needs effectively. Hence, as Abate (2001: ii) recommends in his study, special education training should be given since it has a positive impact on the teachers. In addition, Mariga et al. (2014:90) suggest that though pre-service training is mandatory for inclusive teachers, teachers who are at work should also get in-service training in inclusive education. The contents of the training should cover the educational difficulties the

learners would face and the teaching approaches they would use in inclusive classrooms.

A recent study by Mwakyeja (2013:78) conducted in Tanzania on the teaching of visually-impaired learners in inclusive classrooms reveals that though teachers recognise the importance of inclusive education, they do not have knowledge of reading and translating Braille, adapting and modifying teaching methods, teaching resources and implementing IEP. This indicates that teachers should be trained on how to teach learners with disabilities in general and those with visual impairment in particular. In light of this, Gray (2005:181) suggests that teachers should be trained in order to teach according to the educational needs of their learners especially those who are visually-impaired. Again, Asrat (2013:66) in his study suggests that professional training on inclusive education should be ongoing. Loreman et al. (2010:7) state that teachers can acquire the skills, knowledge and attributes of teaching learners with diverse needs by including this in teacher training curricula. Continuous professional development can be provided to teachers to build additional knowledge in the area of inclusive education.

Finally, Mariga et al. (2014:100) state that teachers are the main resources for the realisation of inclusive education. Therefore, teachers' needs should be addressed; in particular, they should get support from the school management such as the school head. Salisbury (2008:13) expresses that teachers should be trained on how to include visually-impaired learners, on understanding their condition, the implications for teaching and designing appropriate methods and strategies for classroom management. In addition to this, Lemma (2000:32) recommends that in addition to the professional training they obtain, teachers should know their responsibilities in carrying out their career and bringing up their learners to be successful. Therefore, to shoulder their responsibilities, teachers can be trained in their pre-service and in-service periods on the skills, knowledge and attitudes in order to be successful in the effective implementation of inclusive education (Loreman, et al., 2010:7) in which the visually-impaired learners can benefit. Loreman et al. (*ibid*.) further argue that both pre-service and in-service training are vital for a teacher to be inclusive.

3.2.3.3 Professional collaboration

Ertesvag (2011:1) discusses that teachers used to work individually with almost no professional collaboration with their colleagues. Researchers point out that teachers are not interested in sharing or communicating with other teachers and value independence rather than putting pressure on other teachers' work.

Lujan (2009:18) state that professional collaboration is not common in schools and is seen as an exception. Again, he puts that there are some teams of teachers who prefer to work together but some never like to collaborate with others. He states that some teachers question the effectiveness of collaboration. Hwever, Friend (2000:160) emphasises that the time has come for educators to have a common understanding of collaboration and strive for its implementation.

Friend (2011:120) states that time is the main barrier affecting professional collaboration. Professionals do not either have the time to plan together or spend a minimal amount of time planning collaborative activities. Friend (2011:121) adds that collaborative activities in themselves are complex. Additionally, since designing collaborative activities brings together professionals from different fields, they contribute different ideas. This then makes it more challenging. Lujan (2009:iii) states that though there are many factors that hinder professional collaboration among teachers, time factors, the isolated nature of teaching, and teachers' divergent points of view were found to be the primary factors. The third factor, which is teachers' divergent points of view, according to Friend (2000:131), affects professionals' use of collaboration because they have lack of clear understanding of it and how it is applied. Dejan (2013:96) mentions other factors that negatively affect professional collaboration such as problematic power dynamics, poor communication skills, and poor understanding of roles and responsibilities. These factors are leading professionals to have their own extreme limits and cause differences in approaches. On top of this, a study conducted in the US by Stolarski (2011:4) reveals that there is lack of proper training given to professionals on collaboration. Hence, as Dejan (2013:96) states, unless responsible personnel identify the barriers to collaboration, collaboration among professionals will not work. This would be a limitation in promoting the inclusion of visually-impaired learners and their learning.

3.2.3.4 Educational assessment

Polloway and Patton (1997:37) define educational assessment as collecting information about a learner to understand his/her educational needs. Barton (2009:142) says that assessment should not be uninformed. It should rather be purposeful. Michel (2008:31) posits that the purpose of assessment is not to decide which learners should continue their education and which should not. It is also not about putting learners in different ranks based on random criteria. Assessment should focus on the learners' academic performance. This signifies, as Kearney (2009:38) states, that assessment is an important element of learning. However, some types of assessment such as norm-referenced assessment exclude learners with disabilities including visually-impaired learners.

According to McCormick and Pressley (1997:373), traditional assessments mainly focused on subject content using multiple choice questions, essay questions, true/false and completion and matching items. Consequently, as McCormick and Pressley (1997:354) add, learners' competencies were measured based on how many right answers they gave. In other words, there was no consideration given to how learners arrived at their answers. Muluken (2006:13) states that recently the pencil-and-paper test and the trends in using assessment as a means to measure learners to pass or fail them have changed. A shift to authentic assessment usage has been shown to ensure that learners actually learn.

However, if assessment standards are rigid, they will, as Fraser and Maguvhe (2008:86) say, influence visually-impaired learners' learning. Loreman et al., (2005:16) posit that learners learning in inclusive schools learn the same curriculum with their peers, but some learners may not complete high school because they cannot meet the standards. This signifies that this excludes some learners.

Muluken (2006:21) explains that researchers and educators agree on the idea that teachers' low interest or negative attitudes towards assessment have contributed to poor assessment practices. This could come from the challenges teachers face to access enough information about the type of assessment they could use (Muluken 2006:22). Besides, Muluken (2006:23) states that learners' resistance to being assessed continuously affects teachers' assessment of their learners.

According to Salvia and Ysseldyke (2004:163-165), there are five factors which can affect learner's assessments of their skills and abilities. First, when an assessment is prepared in a way that learners with disability cannot understand/read them, this assessment is unfair. For example, assessment materials prepared in print cannot be used for severely visually-impaired learners. Second, assessments which do not consider sensory limitations such as visual impairment are not appropriate assessments. For example, tests which require written responses are not fair test stimuli for the visually-impaired learners. Third, norm-referenced tests without modifications are unfair for the visually-impaired learners since these learners' results cannot be compared to the performance of the norm group. However, criterion-referenced and qualitative interpretations of such tests can be acceptable. Fourth, teachers give tests which do not match the age level of learners. The tests are either very easy or very difficult. The types of tests cannot determine the learners' academic performance. Fifth, visually-impaired learners who did not learn the content of test items in a way that they understood them or they were absent or did not learn at all, would not respond to the tests effectively. Their scores on the tests would be indicative more of their lack of opportunity to learn the content rather than their ability and skill.

3.2.3.5 Resources and support

Walther-Thomas, Korinek, MacLaughlin and Williams (2000:38) put the importance of resources and support for the implementation of inclusion as follows: "Appropriate and effective inclusion demands adequate resources. Assigning students with disabilities to general education programs without adequate support is not inclusion".

This signifies that lack of resources is most likely to hamper the teaching and learning process in general and the practice of inclusive education in particular. The MoE (2012:46) mentions some shortages that affect learners' learning like lack of equipment, limited trained personnel, inadequate and inappropriate resources, limited supervision of schools, and limited collaboration within the special needs education support system. Nonetheless, according to Lewis and Doorlag (2011:12), resources such as taped textbooks, computer adaptations and services like peer tutoring should be provided to learners with disabilities in order for them to succeed in inclusive classrooms.

Simon, Echeita, Sandoval, and Lopez (2010:566) conducted a study in Spain about the inclusive education process of learners with visual impairment. The study found that teachers do not have enough knowledge on how to teach visually-impaired learners, parents of the visually-impaired learners are not interested in cooperating with schools and schools do not have enough resources to help the visually-impaired learners. Similarly, studies by Asrat (2013:66), Assefa (2008:vii), Anto (2004:24) and Knouwds (2010:111) found that lack of resources such as lack of instructional materials and equipment hampers the implementation of inclusive education. Further, a study conducted on learners with impairments by Matewusi and Naong (2014:337) reveals that inappropriate infrastructural resources are one of the two dominant factors which negatively affect impaired learners' learning. Michel (2008:28) also indicates that the lack of emphasis given to support services is becoming an obstacle to the implementation of inclusive education in many countries. A good example is the study conducted in Australia by Brown, et al (2013:223) on the adequacy of regular early education classes for learners with visual impairment. He found that the support and resources provided for the staff, teacher training, adult involvement, access to visual aids and inclusive attitudes were inadequate.

Habulezi (2012:vi), who conducted a study on the provision of learning support for learners with visual impairment at a senior secondary school in Botswana, found that both human and material resources scarcities negatively affect visually-impaired learners' academic achievement. Again, a study by Demetros (2007:viii) shows that resources are neither available in school libraries for visually-impaired learners nor do the learners have their own. Hence, lack of resources together with no support services, as Stubbs (2008:73) stresses, are the primary barriers to the practice of inclusive education in general and the inclusion of visually-impaired learners in particular.

3.2.3.6 Teacher-learner ratio and class size

According to Deighton (1971:157), class size means the number of learners assigned to a classroom with a specific teacher, but what large class size refers to is still a question to many scholars since, as Wade (1980:63) argues, countries have their own different parameters for it. Some countries may define large class size

based on their economic growth and the kind of programme they want to run. Girma (2007:7-8) elaborates that class size differs according to regional standards, grade levels or even subjects. The factors contributing to this variation could be the imbalance between teacher learner ratio, decreasing school income and high enrollment rates.

According to Lockwood (1984:68), skilled teachers can teach a large number of learners as effectively as they can teach small number of learners in a classroom. Stofile and Green (2007:55) believe that inclusive education approaches are important in handling classrooms with a large number of learners, but Steven (1994:52) disagrees, stating that, in classes where the main aim is to develop the social and emotional aspects of the learners, small class size is advisable in order to meet the individual learner's needs. In addition, Stofile and Green (2007:55) say that due to large class size, teachers will not function well; rather they become managers of the classrooms. Consequently, the intended knowledge to be taught will be lost.

Stofile and Green (2007:55) indicate that class size varies from class to class. It could range from 30 learners in a classroom to 80. In a more specific sense, the MoE (1995:3) states that the number of learners assigned to a class should not be more than 40 in a room of 46.08m^2, but the reality, according to Girma (2007: ix), is that more than 70 learners in a classroom are being taught in secondary classrooms in Ethiopia. As a result, there is a shortage of text books, reference books and other school facilities.

Large class size is a barrier to inclusion. Including learners with disabilities in to general classrooms demands extra time. Hence, the class should be small in order to satisfy each and every learner's educational needs, but if the number of learners in the class room is high, teachers cannot individualise classroom activities and will not be able to work in teams with other professionals (Loreman, et al., 2005:16). Wormnaes (2006:50) states that a small number of learners in a classroom has a positive correlation with learner achievement. Similarly, Brown and Race (1995:80) argue that in order for the teacher to cope with the individual learner's needs, a small class size is required. This is because learners learn at different rates and they require their teacher's help. Consequently, teachers need time to give attention to those learners. It is also believed that when the class size is large, some learners,

especially with disability, may feel neglected by their teachers and feel lost in the overcrowded classroom. Tudor (1996:137) also emphasises that small class size will help to create a strong interaction between the learners and the teacher, but if there is large class size, this is seldom happen. Similarly, Blatchford (2003:51) believes that when there is small class size, the interaction between the teacher and learners will increase and there will be enough time for both to work on tasks and feedback. Blatchford (2003:165) found that classroom teachers have been observed being active in smaller classes than larger classes. As a result, in large classes, there will be less direct interaction between the teacher and learners. Therefore, as Tudor (1996:137) states, small class size is preferable in order to have more inclusive, learner-centred teaching.

3.2.4 Visual Impairment Itself as a Barrier

A study by Gray (2008:239-240) points out that the impairment in itself is a barrier to learners with visual impairment because their need differs as their sight problem differs and it is difficult to provide support for those learners. Likewise, Habulezi (2012:13) states that the educational policies and practices developed for teaching learners with visual impairment vary across the globe because of the variation in their impairment. On the other hand, Smith et al. (2008:320) argue that visually-impaired learners themselves are a challenge to general education teachers. They state that even one learner with the impairment is a challenge because he/she needs educational accommodations to address his/her impairment.

Bishop (1996:44) believes that visual impairment itself is not only a factor for the learners learning but also it is a problem for their development. In the same manner, Landsberg (2005:334-336) opines that visual impairment could influence not only learners' learning but also their physical and motor development, perceptual development, language and cognitive development, and social and emotional development. Gray (2005:188) says that research findings indicate a direct correlation between visual impairment and child development. He adds that this correlation could be greatly influenced by factors such as degree of acuity, age at diagnosis, preventative measures employed, the child's intellectual ability, parental support and the child's personality.

Landsberg (2005:334-336) puts the effect of visual impairment on the learner's development as follows:

- Physical and motor development: Children with visual impairments, especially those who are blind, have to rely on their other senses for developing motor skills. Babies who are blind will be behind sighted babies in their physical and motor development.
- Perceptual development: Young children develop their perceptual abilities by means of play. Children who are blind are unable to develop visual perception, because they cannot see. Children who are blind may also experience problems with time and spatial awareness, because these may be abstract concepts to them which they cannot discover through hearing and touch.
- Language and cognitive development: Because vision plays an important part in cognitive as well as language development, it stands to reason that children who are visually-impaired will be behind other children of the same age in their cognitive and language development.
- Social and emotional development: A visual impairment may cause learners to have limited visual contact with their parents and others; they cannot observe the facial expressions of others, which make it difficult to interpret other people's emotions. They have difficulty in establishing social contact with others, because they cannot initiate contact. They are then easily ignored by their sighted peers. Some learners who are blind may exhibit socially annoying mannerisms such as rocking their bodies to and from, twisting their fists into their eye sockets, waving their hands in front of their eyes, or constantly twisting their heads around. These mannerisms have been attributed to a lack of adequate sensory stimulation. Learners may be called names because of their thick spectacle lenses, and this behaviour on the part of peers may cause low-vision learners to withdraw from them and subsequently become loners.

Carney, Engbretson, Scammell and Sheppard (2003: 6) state that visually-impaired learners are limited in their learning experiences because of their vision loss. The learners may have limitations in concept development, interpersonal communication skills, life skills, orientation and mobility skills, and academic development. Friend (2011:374) states that such limitations may fall under cognitive, academic,

behavioural or social and emotional characteristics of the visually-impaired learner. Regarding orientation and counseling, a study by Awetash (2015:77) found that visually-impaired learners do not receive mobility orientation and counseling services.

3.3 THE STRATEGIES THAT CAN BE USED TO REALISE THE INCLUSION OF VISUALLY-IMPAIRED LEARNERS

Today's teachers of inclusive classrooms are facing difficulties in teaching learners with diverse educational needs. To meet the learners' needs, therefore, teachers are required to implement different teaching strategies (Michel, 2008:31). When teachers notice that learners have disabilities and especially visual impairment, they must look for alternative teaching strategies in order to meet the needs of the learners (Downing & Chen, 2003:56). However, the teachers should first and foremost accept the diversity of the learners and should have positive perceptions of including them in their classrooms.

3.3.1 Accepting Diversity by the School Community

It goes without saying that all learners in a classroom are not from the same background and do not have the same abilities and disabilities. In light of this, Lewis and Doorlag (2011:69-70) say that today's classrooms are more diverse than fifty years ago. The schools host learners from different backgrounds. Similarly, Smith et al. (2008:36) say that today learners are much more diverse than before.

The increase in the diversity of society will cause an increase in the diversity of the learners. Accepting the diversity of the learners is a challenge for schools. Though there are teachers and administrators who tolerate diversity, there are some who may not. The diverse nature of learners has difficulties for teachers and schools. For instance, learners who do not speak English as their mother tongue can cause difficulties for the classroom teacher. In the same way, learners with disabilities can cause difficulties for teachers, but it is important to notice that a teacher can bring change to the lives of his/her learners (Smith, et al., 2008:36).

As far as teaching learners from different backgrounds is concerned, Richards, Brown and Forde (2006: 4) state:

> As more and more students from diverse backgrounds populate 21st century classrooms, and efforts mount to identify effective methods to teach these students, the need for pedagogical approaches that are culturally responsive intensifies. Today's classrooms require teachers to educate students varying in culture, language, abilities, and many other characteristics.

On the other hand, Smith et al. (2008:503) say that inclusion must begin in the early years of the learners. Expecting learners with disabilities who have been isolated for years in a segregated setting to integrate into society is difficult, but this does not mean that learners who were isolated should be excluded from school. Hence, creating effective inclusive schools and classrooms has an impact on the learners' short-term and long-term needs. In the short-term, learners need to learn with their peers i.e. at inclusive schools. Research findings show that learners with disabilities learn better in inclusive settings than in segregated settings. In the long-term, we want these learners to live, work, and play with their peers in their "home community".

Therefore, the school community has to be aware of today's classroom contexts and inclusion. Loreman et al. (2005:15) state that there should be awareness of inclusion by childhood special educators, administrators, para-educators, legislators, business people, and community leaders. Similarly, support staff such as bus drivers, secretaries, and cafeteria workers must know what inclusion is and its purpose. Loreman et al. (2005:15) again emphasise that a positive attitude is essential to successful inclusion. UNESCO (2005:22) also affirms that the problem of negative attitudes towards learners with disabilities can be overcome by the practice of inclusion. This leads to the idea that disability is real; we do not have to ignore people with disabilities; rather we should encourage, include and provide them with all necessary accommodations. Gray (2005:181) suggests that awareness training should be given to both educators and sighted learners. In addition to this, Bishop and Rhind (2011:178) recommend that training is necessary for those staff who have negative attitudes towards visually-impaired learners. Asrat (2013:66) urges that an immediate response is required to change the negative "social images" of learners included in regular classrooms.

Therefore, not only teachers and learners but also all education stakeholders should know that accepting learners' diversity in language, gender, ability, age, racial and

ethical/cultural, and socioeconomic status, is an important component of a positive environment for children. (Sanders & Downer, 2012:503). In addition, Lewis and Doorlag (2011:80) recommend that classroom teachers must be proactive to today's diverse classrooms and should positively respond to the learners' educational needs.

3.3.2 Teachers' Inclusion of Visually-Impaired Learners in Their Classrooms

The idea of including learners with disabilities by teachers in inclusive classrooms has become a point of debate. Some do not support the inclusion of learners with disabilities in an inclusive setting and giving them equal opportunities. However, others believe that inclusion is good but it may raise concerns on how to implement it. Studies concerning attitudes towards inclusion say that teachers of learners with disabilities play a key role in inclusion. The studies state that for the successful implementation of inclusion, teachers must get professional development training by their schools (Smith, et al., 2008:37). In addition, Winter and O'Rawl (2010:49) suggest that the focus areas to consider in practising inclusive education include provision of information, physical features, inclusive school policies, the IEP, learners' interaction, and staffing and personnel.

Smith, et al. (2008:323-324) argue that though visually-impaired learners can learn as much as their sighted peers, because of their disability, they require specific modifications on some aspects. Smith, et al. (2008:28) state that teachers should prepare appropriate strategies for the inclusion of learners with disabilities. Specifically, visually-impaired learners have a need for special means to address their problems (Mwakyeja, 2013:25), but what are the strategies to be used by teachers to include these learners? The following section discusses the strategies that can be used by teachers in inclusive learning classrooms in which visually-impaired learners could be included.

3.3.3 Classroom Adaptations

According to Hallahan, Kauffman and Pullen (2012:37), making adaptations and providing accommodations are the strategies that schools use to include learners with disabilities in the general education classroom. English (2011:304) states that adaptations should be made to the instruction and the classroom environment. This is because, as Smith et al. (2008:324) state, some classroom adjustments will assist

to improve the quality of visually-impaired learners' education. Asrat (2013:61) believes that it is the classroom teacher's responsibility to adapt the learning environment and implement instructional adaptations. However, they must have the knowledge and skills to make these adaptations to meet the educational needs of the individual learners. For any kind of adaptations made, however, as Smith et al., (2008:543) recommend, care must be given since when there is too much adaptation learners may feel they have brought almost nothing to the classroom and they may lose their "self-esteem".

3.3.3.1 Learning environment adaptations

According to Pollaway and Patton (1997:64-66), the learning environment is a crucial factor in teaching and learning. Hence, it has to be flexible so that learners can benefit from it specially to meet their learning needs. The learning environment should facilitate learning in such a way that the physical setting is welcoming and the seating arrangements are comfortable. Wormnaes (2006:51) states that the decor of classrooms and the availability of light have an impact on the learning of visually-impaired learners. Assefa (2008:15) indicates that a good learning environment has facilities such as sound facilities, sockets for audio-recorders, light, and toilet facilities.

Adaptations have to be made to the seating arrangements and classroom equipment such as lighting and sound transmission systems. The classroom where visually-impaired learners learn with other learners must fulfill certain things including free walkways and extra space for putting their learning materials. There should not be obstacles which can prevent visually-impaired learners' movement. Teachers should also describe the classrooms to the learners and let them know how to exit during emergencies. Teachers are expected to clarify to the learners and give responsibilities to sighted learners to assist them. However, unnecessary attention should not be given by sighted learners to visually-impaired learners since they may feel overprotected and develop over-dependence (English, 2011:304; Mastropieri & Scruggs, 2010:95). Unfortunately, a study by Anto (2004:24) on the educational challenges of integrated blind learners found that the overall classroom setting and school compound seem to be uncomfortable for visually-impaired learners.

Westwood (2011:40) states that teachers should include visually-impaired learners in group activities. In addition, Mariga, McConkey and Myezwa (2014:117) maintain that the teachers should organise the classroom in such a way that it treats all learners equally. Hence, in planning to organise the classroom, teachers have to take the following factors into account:

- Children with special needs should sit close to the teacher and the chalkboard. The child can then see and hear the teacher better and the teacher can more easily check their work and control their behaviour.
- Teachers should stand in the brightest part of the room so that all pupils can see them more easily.
- The room should be arranged so that children can move freely, especially if some have visual problems or use mobility aids.
- Any dangerous materials and equipment should be kept in a cupboard or on a high shelf.
- The children's desks can be arranged in groups so that those of the same ability can work together.
- If space permits, an area of the classroom should be set aside so that the teachers can work with certain children on a one-to-one basis or in small groups for short periods; this area could be screened off using a moveable screen to reduce distractions for the children.
- A variety of activities should be provided which children can use if they have completed their work ahead of others. This could include a small library of books, worksheets and games.
- Charts and posters should be displayed at children's eye-level rather than high up on the walls. They should use large writing, pictures and symbols so that these are easily seen and understood by all children. Different textures could be added for touching to help children with visual problems.
- Some learning is better done outside of classrooms. Using money to buy food can be done by means of roleplay in the classroom but it is even better if children

with special needs have the opportunity to practise in real settings. Likewise, lessons about plants and animals could be done in the school grounds or neighbouring farms.

- Children with visual and hearing problems may find it more difficult to learn if classes are held out-of-doors. Schools may have to arrange for teachers to have suitable rooms if they have such children in their class particularly when they are just starting school.

Smith et al. (2008:325) and English (2011:305) have forwarded some suggestions on how the classroom adaptations for visually-impaired learners to be made. They say that tables should be large enough to put the learners' things on and write Braille but not too large or too small. There should be enough storage area for their learning materials during classroom sessions. A clock orientation approach is also good for the visually-impaired learners to better know their classroom. For instance, the front of the classroom is 12 o'clock, teacher's desk is 3 o'clock, reading table is 6 o'clock and storage area for their bags and coats is 9 o'clock. Visually-impaired learners should not be ordered to sit around windows because the light coming through them may hamper their reading, but, if the learners want extra light, they should be allowed to sit there. Letting the learners explore the classroom is also another opportunity to the learners to adapt the classroom. In addition, teachers should wait until noise disturbance calms down.

3.3.3.2 Instructional adaptations

Instructional adaptations are important to satisfy the individual needs of learners. They should be modified according to their educational needs. English (2011:306) say that instructional adaptations could vary based on learners' needs and abilities. Therefore, other professionals in the field of special education should help the general classroom teachers in modifying the instruction. They add that visually-impaired learners require directions from specialists on how to use low-vision aids and how to read and write Braille. Some learners may also need special materials while others may use the existing materials, but, English (2011:304) argues that some sensory-impaired learners, including visually-impaired learners, may need special treatment by speech-language pathologists, adapted physical education teachers, and vocational rehabilitation counselors.

Mastropieri and Scruggs (2010:6) and English (2011:306-309) provide some pointers for teachers to consider when making instructional adaptations for inclusive classrooms. They state that teachers should only adapt the instruction only if necessary. More importantly, they should work with specialists. Teachers should give enough time to the visually-impaired learners to work their reading assignments. When teaching, teachers should use descriptive language and say aloud what they have written on boards. Teachers should not use vague words such as *over here*, *this* and *that*. They should also use large print and make materials visible. It is also important to tape-record materials and assignments for learners, but this demands that teachers should familiarise themselves with the equipment used by the learners.

Additionally, Salisbury (2008:22) and Bishop (1996:151-152) indicate that learning materials should be adapted. The font size of the texts, colouring the words, making space between words and increasing contrast should be taken into consideration. Some learners may need big size fonts and others may need small size fonts. This can be done using a photocopier but learners' preferences should be noted. Teachers should write in the same manner when writing notes on boards. However, these adaptations depend on the type of visual impairments the learners have. Hence, the classroom teacher should consult a specialist. Some of the adaptations to the resources such as preparing tactile resources, as Salisbury (2008:19) states, require extra time. Therefore, a staff member should be assigned to facilitate the adaptations. However, a study by Knouwds (2010:112) found that teachers generally do not adapt teaching methods to include visually-impaired learners in the classrooms. Similarly, Demetros (2007:viii) found that teachers do not employ teaching strategies to include visually-impaired learners due to lack of training, large class sizes, heavy teaching loads, and limited classroom space.

3.3.4 Encouraging Cooperative Learning

Mwakyeja (2013:26) states that learners' abilities and experiences are not the same. They could be high, medium or low achievers. These types of learners learning in the same classroom have to share what they have with each other, but there should be a good learning strategy for that to happen. Hallahan et al. (2012:37), Jha (2002:10) and Demetros (2007:26) indicate that one of the main strategies that can be used in inclusive classrooms is cooperative learning. Michel (2008:43) and

Sutherland, Wehby and Gunter (2004:246) defined cooperative learning as learners who work together in a group to benefit from each other. According to Serna and Patton (1997:162), it is a strategy that can be implemented by classroom teachers by which learners help each other with their lessons.

These days, as Polloway and Pattons (1997:64) state, cooperative learning situation is being given more attention. Hallahan et al. (2012:37), Michel (2008:43), Sutherland, et al. (2004:146) and Mwakyeja (2013:26) indicate that cooperative learning is a proven strategy that helps learners in inclusive classrooms to become successful. It is a very good learning strategy for learners to develop positive attitudes towards the subject, improving social relations among learners and effective academic achievement. Hallahan et al. (2012:37) again say that it is one of the most effective ways of including learners with disabilities in the classroom. Putnam (1997:20) again discusses that many research findings have shown the effectiveness of cooperative learning which it helps to improve learners' academic and social/psychological achievements. In addition, Asrat (2013:66) indicates that collaboration is important in sharing experiences and knowledge among learners and improving communication.

Serna and Patton (1997:162) and Michel (2008:44) say that cooperative learning has four basic elements. They are interdependence, accountability, collaboration and evaluation. The learners involved in cooperative learning are interdependent. They can learn from one another. Every one of them is accountable for what they do. The collaborative skills also emphasise the learners' support for one another. The sympathy they develop among each other and their contributions to their group also have paramount importance. Learners in a cooperative group evaluate what they have done before and what they can do for the future. In addition, Putnam (1997:19) says that cooperative groups develop interaction, social relationships, and equal opportunity for success benefits compared to traditional groups. Again, Michel (2008:45) states, "The group sinks or swims on the basis of *all* members of the group making their individual contributions".

Cooperative learning brings learners with mixed ability and from different backgrounds together. In other words, the visually-impaired learners will be grouped with their sighted fellows, but it is the classroom teacher who has to group the

learners. In implementing this, enough space is also required to spread out the groups. Here, one must notice that the groups should be informed that they should have similar goals. The group members may also be assigned to different roles. They should be open-minded to listen to each other and respect others' ideas. The group members must also solve problems together and help one another (Demetros, 2007:26; Michel, 2008:45).

In addition, Slavin (1994:2) states that three things are important in implementing cooperative learning. First, teams should be rewarded for their contribution to learning. Second, every learner who participated in the learning process should be accountable. Third, equal opportunities should be given to participant fellow learners in order to improve their performance. However, according to Knigh and Bohlmeyer (1990:2-5), the grouping method in cooperative learning could vary. They state that different methods of cooperative learning have been designed by educators. Among them, learning together (circle learning), jigsaw, student teams-achievement division (STAD), teams-games-tournaments, team-assisted individualisation or team-accelerated instruction and group investigation are the most widely used methods, but it is up to the classroom teacher to choose which one to use in his/her classroom. Regarding the number of learners in one group, Michel (2008:45) suggests that six up to eight learners could compose a cooperative group.

In general, as Mwakyeja (2013:26) argues, cooperative learning is good to apply in inclusive classrooms where visually-impaired learners are included. Slavin (1994:12) indicates that research has proved the positive effects of cooperative learning on academic achievement, intergroup relations, mainstreaming and self-esteem. It has been found that it has brought to the learners "liking of school, development of peer norms in favor of doing well academically, feelings of individual control over the student's own fate in school, and cooperativeness and altruism". Putnam (1997:37) adds that research reveals that learners with disabilities are more accepted by their peers in cooperative learning. Sutherland et al., (2004:146) again writes that researchers have proved that cooperative learning promotes the inclusion of learners with disabilities and it brings attitudinal change towards disabilities. Additionally, Michel (2008:43) says that cooperative learning is also good for third world countries (like Ethiopia) in which they have large class sizes.

3.3.5 Encouraging peer tutoring

According to Hallahan, et al. (2012:37), peer tutoring is one of the proven strategies used to enhance the inclusion of learners with disabilities. Peer means a fellow learner in a classroom. When learners teach one another, it is called peer tutoring. Jha (2002:10) also says that peer tutoring is an innovative inclusive strategy which is used to involve learners to participate in the learning process. Verduin, Miller and Greer (1977:139) define peer tutoring as a one-to-one instruction which can be either formal or informal. Again, according to Michel (2008:52), it is a one-to-one teaching between learners under the supervision of the teacher. Hornby, Atkinson and Howard (2004:233) say that peer tutoring has been used to describe varied things but, in general, it means that learners teach their fellows. Sometimes older learners may teach younger ones: this is called cross-age tutoring. What the literature has defined, however, is that peer tutoring is a non-professional teaching taking the role of the professional teacher. Verduin et al. (1977:139) agree that peer tutoring is an individualised approach to learning which includes verbal questioning, explanations, and responses. They say that peer tutoring is implemented to help those who need special support in their studies.

Michel (2008:52) agrees that peer tutoring is an effective strategy to use in inclusive classrooms. Likewise, Demetros (2007:26) believes that peer tutoring is one of the major strategies that can be used in an inclusive classroom. So, as peer influence is high at a secondary school level, peer support is also important at this level. In peer tutoring, both the tutor and the tutee are beneficiaries. Any learner who has the capacity can be a peer tutor. This means that only learners with disabilities should not be tutees or tutors. According to Serna and Patton (1997:162), the tutor should have the potential and willingness to become a tutor. In selecting the tutor, teachers should recognise that the tutor can contribute to the teaching process.

There are many reasons for using peer tutoring. Hornby, et al. (2004:234) mention that the main reason for the practice of peer tutoring is due to limited number of teachers and high numbers of learners in classrooms. This has a financial impact and peer tutoring may be used to solve the problem. It is also used to give extra time to teachers in order to assist learners who are in serious need, to increase the academic performance of the tutors and tutees, to develop the confidence of

learners as well as to improve the behaviour of those learners who have behavioural problems.

Mariga, McConkey and Myezwa (2014:119) indicate that learners themselves are good resources for learning. Teachers can benefit from their learners. For this reason, Keim and Tolliver (1993:4-5) and Michel (2008:53) posit that peer tutoring is a multi-purpose teaching method. It benefits the tutors, tutees and teachers. Peer tutoring benefits tutors since they will develop their confidence and experience, be challenged and improve their knowledge of the subject matter. They also gain expertise in the areas they tutor and tutoring their fellows. Similarly, the tutees discuss things freely with their tutors, they are paid attention and they feel liked and accepted so that they develop positive attitudes. The educators/teachers also benefit from it as they have enough time to discuss with other learners and help them to develop a cooperative culture in the classroom.

Hornby et al. (2004:233) specifies the types of peer tutoring that can be used: one-to-one, same age tutor and tutee, older tutor to younger child, more able to less able child of the same age or younger, less able child or learner as tutor to younger child, college or university learner to individual or group of children, behaviourally-disturbed child or learner as tutor to younger, less able child, untrained adults or parents as tutors. Hornby et al. (2004:235-240) state that peer tutoring could be approached in various ways such as unstructured peer tutoring, semi-structured peer tutoring, structured peer tutoring, parent tutoring, parental listening to children read, paired reading, and pause, prompt and praise. Demetros (2007:27) suggests that such tutors must have monitoring, reinforcing, moderating, and explaining abilities. And peer tutoring requires effective planning, i.e., it is not like "…simply asking an able learner to 'Help Johnny with his reading, please" (Michel, 2008:53).

The tutoring process consists of the giving of independent activities and assessing them in addition to teaching on one-to-one basis (Verduin, et al., 1977:139). Verduin, et al. (1977:140) and Hornby, et al. (2004:245) add that peer tutoring implies that the teacher must amend his/her instruction to suit the learners' needs, motivate learners, give immediate feedback and give the opportunity to the learners to choose, plan and select learning activities. Similarly, Hornby et al. (2004:246) illustrate that peer

tutoring helps to improve learners' behaviour, changes their attitudes, and increases motivation.

This is a reminder that inclusive classroom teachers have to plan according to the needs of learners such as the visually-impaired. In addition, Demetros (2007:27) states that the teacher has to accept learners' diversity and respond to their needs. He/she should know learners learning styles and amend his/her teaching methods accordingly. It is the teacher's responsibility to locate all the materials needed for the learners and address barriers to learning. The teacher should discuss the learners' needs with the parents/care givers of the learners or consult with specialists/other teachers. The teacher should also assess learners' performance properly in addition to adapting his/her instruction and creating an inclusive classroom environment.

3.3.6 Collaborative Teaching and Consultation

Collaboration is referred to as a combination of knowledge and experience of expertise to address challenges. Collaborative teaching is one means of solving teaching problems in which groups of teacher professionals collaborate to satisfy the educational needs of learners (Michel, 2008:60). These days, collaborations among professionals is becoming a trend to help learners. For the benefit of learners with disabilities, it is believed that the collaboration between the general classroom teacher and the special needs teacher is important (Hallahan, et al., 2012:37). Michel (2008:61) states that collaborative teaching has three major advantages: creating a combined expertise knowledge and experiences, designing new strategies in resolving learning problems, and improving the service provision for learners with disabilities. In addition, according to Murawski (2009:12), collaborative teaching is helpful for both the general and special education teachers to design appropriate lessons for their learners with disabilities.

According to Michel (2008:60), Mastropieri and Scruggs (2010:43) and Hallahan, et al. (2012:37), collaboration may vary ranging from collaborative consultation through co-teaching to supervising the general education teacher. As a result, it may have collaborative forms like co-teaching, collaborative consultation, collaborating with paraprofessionals and communication among professionals.

Dettmer, Thurston and Dyck (2005:35) state that human beings have developed the ability to share ideas with others starting from the early years. They have gained a lot of experience on how to consult others and the same is true regarding general classroom teachers consulting other professionals who could help their teaching. Most of the time, this consultation takes place between the general and special education teachers (Hallahan, et al., 2012:36). The special education teacher advises the general education teacher on how to adjust classroom instruction and provide support. Similarly, Mastropieri and Scruggs (2010:43) say that the general education teacher may ask the special education teacher on how to treat and teach learners with diverse backgrounds. Hence, Michel (2008:63) says that it is the special education teacher who indirectly helps the learners though he/she may design his/her own ways of teaching. The special education teacher may also provide materials to the general education teacher and help to arrange the learning environment, but it is the classroom teacher's responsibilities to carry out most of the classroom activities.

Dettmer et al. (2005:35) discuss that collaboration and teamwork, which began centuries ago in the early hunting and gathering ages, have been becoming crucial to the day-to-day activities of human beings. Human beings develop communication and collaboration skills as they start working together. With this in mind, collaborating with professionals and developing a good communication among professionals is essential to better understand the needs of learners with disabilities and work according to their needs. Mastropieri and Scruggs (2010: 44-45) posit that paraprofessionals could assist both the special and general education teachers and learners with disabilities in many ways. They could help in recordkeeping, supervising, monitoring seatwork and classroom behaviour, feeding and toileting, and providing instruction. Taking their responsibilities into consideration, they should get training on these roles.

Quite often communication among professionals is not easy. When learners with disabilities are included in the classroom, communication will take place among many individuals and institutions. The professionals, then, need to communicate on how to deal with the learners' educational needs, but their communication is dependent on their attitudes towards inclusion (Loreman et al., 2005:17).

To work in the inclusive setting, therefore, there should be communication among professionals such as special and general education teachers. Likewise, the communication among other professionals such as administrators, support staff and families is as important as the communication between the two types of teachers mentioned. This is because the learners with disabilities like visually-impaired learners have direct contact with these personnel and vice versa. Thus, the communication between the professionals and the learners will facilitate the teaching and learning (Hollingsworth, 2001:4).

3.3.6.1 Co-teaching

Michel (2008:62) says that co-teaching is a model that can be used to meet the diverse educational needs of learners in the same classroom. During co-teaching, two professionals are available simultaneously in the inclusive classroom. According to Walther-Thomas, et al. (2000:184), co-teaching is most often used by general education and special education teachers to help learners with disabilities, but the functions of other co-teachers like counsellors, psychologists and health educators are limited. They focus only on limited areas within limited time.

Co-teaching is helpful for the learners to deal with their learning since it widens opportunities to satisfy their diverse needs. It is also useful for the teachers to share knowledge and experience on how to handle the diverse needs of their learners with the particular skills they have (Walther-Thomas, et al., 2000:184). To make it successful, there should be enough support from the school leadership, both the general and special education teachers should plan together, agree on the procedures of handling their learners' learning, common lesson objectives, and communication with learners' parents on how they will co-teach (Michel, 2008:62).

Co-teaching can be implemented in the classroom in different ways. This may include station teaching, alternative teaching, parallel teaching and interactive (team) teaching. In station teaching, while the teachers supervise different station groups, groups of learners move to different stations to gather information, review or practise. They may also move through independent or directed stations. Regarding alternative teaching, the general education teacher most often manages a larger group and the special education teacher assists learners who are in need of additional support. It may also be implemented by the special education teacher

taking some learners to another location for a limited time and special instruction. In parallel teaching, the teachers group the learners in to two mixed-ability groups. The teachers teach the two groups the same content and skills at the same time. In interactive teaching, both the teachers take turns to teach equally (Mastropieri & Scruggs, 2010:43; Scruggs, Mastropieri & McDuffie, 2007:392-393; Walther-Thomas, et al. 2000:192-193).

3.3.7 Using Assistive Technologies and Materials

According to Downing and Chen (2003:56), teacher's teaching strategy influences learners' learning. Their teaching strategies may include using technologies and materials. Lewis and Doorlag (2011:306) found that using assistive technologies and materials for learners with sensory impairments is vitally important for their learning. As Lewis and Doorlag (2011:163) mention, modern assistive technologies include computers, video, the Internet, phones, audio-players, electronic calendars while traditional technologies include television, radio and tape-recorders. All these technologies and materials play an important role in the learning facilitation of the learners. More importantly, the assistive technologies developed for learners with disabilities can help them fulfill their educational needs. With special reference to the use of assistive technologies to visually-impaired learners, the authors state that these technologies could help visually-impaired learners by reading words from a computer. Lewis and Doorlag (2011:166) add that an audio-recording of a book or a chapter or using computers can help a learner with visual impairment. Above all, Westwood (2011:41) argues that blind learners should at least have a Braille writer.

Smith et al. (2008:326) note that using appropriate materials can increase visually-impaired learners' learning. Making modifications to the materials according to the learners' needs is also a plus. Vision specialists can assist classroom teachers on material selection for their learners. Downing and Chen (2003:57) argue that as sighted learners can easily learn from demonstrations, visually-impaired learners can learn via tactile stimuli, but the use of tactile demonstration demands careful planning by the classroom teacher and allocating enough time for the learners to practise it. Downing and Chen (2003:59) again affirm that teachers should use tactile strategies when teaching visually-impaired learners. They also specify the following considerations when developing tactile materials:

- “Identify the objective of the lesson or the instructional concept.
- Select the materials to convey this concept.
- Close your eyes and examine the material with your hands.
- Take a tactile perspective, not visual, when deciding how and what to present.
- If the entire concept (e.g., house) is too complicated to represent through a tactile adaptation, then select one aspect of the concept (e.g., key) for the tactile representation.
- Consider the learner’s previous tactile experiences. What items has he or she examined? How does the learner examine materials through the sense of touch?
- Decide how the item will be introduced to the learner.
- Identify what supports the learner needs to tactilely examine the item.
- Decide what language input (descriptive words) will be used to convey the learner’s experience of the material”.

Bishop (1996:109) argues that learners should get trained on whole-hand exploration than getting information by using only their fingers. They should know how to interpret information represented by lines. Such abilities will assist visually-impaired learners to understand the most important keys used in graphs or maps. Equally, Knouwds (2010:43) states that visually-impaired learners’ experiences of tactile senses will assist them to identify shapes, forms and textures of things. Therefore, teachers should teach their learners the skills of identifying such tactual materials and how to use them.

On the other hand, Smith et al. (2008:327) state that other assistive technologies such as optical, non-optical and electronic devices can also be used if recommended for the learners, but the teachers should have an understanding of such materials. Consulting with specialists, will assist teachers to use them in their classrooms. Those learners with severe visual impairments may use Braille as their primary material for writing and reading. Smith et al. (2008:328-329) also state that technological devices such as magnifiers, closed-circuit television, and monoculars could also help learners with low vision. Other technological devices like computers may assist the visually-impaired learners to get access to the internet after they receive training on how to use it. Braille printers and speech input/output can also be

used effectively. In addition, classroom teachers audio-recorders (Goodwin (1969:2). Using audio-recorders in classrooms has a multifold purpose. They are flexible and can be used in large classes. Audio technology can also record radio programmes and can be used for future classes and evaluation. They also help to improve learners' listening skills and create opportunities to develop oral skills.

3.4 CHAPTER SUMMARY

This chapter discussed the barriers which hinder the inclusion of visually-impaired learners and the strategies that can be used to include those learners. The barriers discussed under this chapter include social and cultural, environmental, academic and the visual impairment itself. According to the reviewed literature, the mentioned barriers are hindering the inclusion of visually-impaired learners not only in Ethiopia but also in other countries of the world. However, scholars believe that there are strategies that can be used to alleviate the barriers. These strategies include accepting diversity by the school community, teachers' inclusion strategies, encouraging cooperative learning and peer tutoring, collaborative teaching and consultation, and using assistive technologies and materials.

CHAPTER 4

RESEARCH METHODOLOGY AND DESIGN

4.1 INTRODUCTION

This chapter presents the research paradigm and design, and research methodology used to conduct this research. It also explains data collection instruments used in the study, data collection procedure, data analysis, setting and sample participants, measures taken to ensure trustworthiness, and ethical issues considered.

4.2 RESEARCH PARADIGM, METHODOLOGY AND DESIGN

In this section of the chapter, research paradigm, methodology and design are discussed.

4.2.1 Research Paradigm

Researchers have their own beliefs, views and ways of interacting with their environment. Consequently, the ways in which research is conducted vary from researcher to researcher, but researchers are guided by certain standards and rules. These rules can be referred as a paradigm (Michel, 2008:40).

According to Creswell (2007:19), a paradigm is a basic set of beliefs that guide action. Researchers use different types of paradigms such as post positivism, constructivism, advocacy/participatory, and pragmatism. According to Ben-David (2011:15), a paradigm helps to make sense of the social world. This helps researchers to view their research in a particular way. A researcher should be aware of the paradigm he/she has to follow to have a clear approach in analysing data. Consequently, in this research a constructivist paradigm is followed. Creswell (2014:8) explains that constructivism or an interpretive paradigm is a common paradigm used in research. The basic tenet of this paradigm is that the researcher seeks understanding of a phenomenon in its natural setting. Merriam (2009:23) says that meaning is constructed in the constructivist paradigm rather than discovered. In other words, as Creswell (2014:8) states, interpretation is subjective but it depends on the research participants' views of the situation under study. Creswell (2014:24) says that the researcher has to respect each participant's views. Researchers are also "sensitive to power imbalances during all facets of the research process". As a

result, individual differences are respected. In this study, the researcher focused on the situation in which the people live and work in order to understand the context. Meaning was constructed considering the research participants' views of their world. In other words, the aim of the researcher was to interpret how people view their world. Therefore, the researcher developed a pattern of meaning from the participants' views.

4.2.2 Research Methodology

There are many factors which affect the choice of research methodology. Among the many, the research paradigm and inductive or deductive reasoning will affect the choice of research methodology (Gray, 2004:25). Similarly, Berg (2001:5) states that researchers choose a methodology that best suits them and are comfortable with. Ben-David (2011:144) also points out that the methodology contains the methods used for a particular study. Ben-David (2011:144) further describes that a research methodology concerns how a research design is implemented and how the research is conducted. It specifies when and how to collect data, how to select sample participants, and how findings are presented. Further, Singh (2006:79) posits that research methodology is a systematic procedure followed by a researcher starting from the beginning of problem identification up to the end. In other words, it means that research methodology consists of the methods used in the research and all other general and specific activities of a research. Jonker and Pennink (2010:17) describes that in general speaking methodology is the way a researcher approaches a research. It is the way the researcher wants to answer a research problem. This means that the selection of the research methodology depends on the research problem. Consequently, the methodology of this research was chosen based on the nature of the research problem raised. This research is a mixed methods, exploratory, multiple case study with an emphasis on the qualitative paradigm. The problem raised in this research was a case study research problem of two school cases. To collect data from participants, interviews, focus group discussions, observation and questionnaires were employed. Again, a constructivist/interpretive data analysis paradigm was used.

4.2.3 Research Design

A research design helps researchers to know how to conduct research and what methods to use. A mixed methods research design has been used in this study, although it is largely qualitative. The reason why mixed methods research is used is due to the nature of the research. The research questions mentioned in Chapter 1 require a combination of qualitative and quantitative methods. Hessen-Biber (2010:1) states that mixed methods research is becoming more familiar recently. Furthermore, Hessen-Biber (2010:3) explains that mixed methods research refers to the use of both qualitative and quantitative research methods at the same time in a single research. Regarding the assumption of mixed methods research, Creswell (2014:4) says:

> The core assumption of this form (mixed methods) inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone.

Lodico et al (2006:282) further say that the advantages of using mixed methods research is that it combines the strengths of both qualitative and quantitative research. On the other hand, Lodico et al (2006:17) discuss that it is possible to emphasize on either of the qualitative or quantitative data while both are considered important for the research. In this research, the qualitative data highly dominates. To put it simple, this research has followed the concurrent/convergent parallel mixed methods research design. According to Creswell (2014:15) and Lodico et al (2006:286), in convergent parallel mixed methods design, the researcher collects both qualitative and quantitative data at the same time simultaneously, analyses them separately, and compares and triangulates the results. In this research, both qualitative and quantitative data were collected at the same time. But were analysed separately and a discussion of results with comparisons from both qualitative and quantitative instruments was done.

To be precise, a mixed method, exploratory multiple case study has been selected to be used in this study. According to Lodico, et al. (2006:269), case study research is a type of research which helps to understand a situation in-depth. Furthermore, Lodico, et al. (2006:277) state that a case study is a specific or particular case or cases which employ a bounded system that has a limited number of research

participants. Vanderstoep and Johnson (2009:209) explain that the purpose of a case study is to understand a bounded system and to describe an event or process within the given bounded system. Again, Neuman (2007:20) points out that the researcher examines cases in-depth with varied and detailed data often in a qualitative form. A summarised explanation of case study is given by Anderson (1998:161) as follows:

> A case study is a holistic research method that uses multiple sources of evidence to analyze or evaluate a specific phenomenon or instance. Most case study research is interpretive and seeks to bring to life a case. It often, but not exclusively, occurs in a natural setting and it may employ qualitative and/or quantitative methods and measures.

The above explanation tells us that a researcher who conducts case study research uses different methods of data collection instruments in order to sketch a natural picture. These instruments could be used either to collect qualitative or quantitative data. In addition, the paradigm the researcher could use to analyse the data gathered from a case research site could be interpretive/constructivist. Accordingly, since the current research is case study research, four data collection instruments were used. They were interviews, focus group discussions, observation and questionnaires. Using the data collection instruments, both types of data (qualitative data from all the instruments and quantitative data from the questionnaire) were collected. To analyse the data, the interpretive/constructivism paradigm was used.

According to Lodico, et al. (2006:270), if a researcher is conducting a study which takes him/her closer to the research case/site, a case study is advisable. Merriam (2009:50, 51) also indicates that a researcher chooses a case study because of the research problem and the questions being asked. He continued that a case study is "the best plan" for answering research questions since its strengths surpass its limitations, and advises that case study is a good design to conduct research in field of study such as education. The present research required the researcher to conduct his research being closer to case schools. Above all, this research is a study in the field of education which investigates the nature of school inclusivity regarding visually-impaired learners in schools. These are the reasons why the researcher selected case study research for this study.

Since case studies can be conducted on site (Vanderstoep & Johnson, 2009:210); the researcher conducted the research in the selected schools in person. Since the characteristics of the two schools are almost the same, a comparison between them was not done, but in the issues where the schools had differences, comparisons have been made in the analysis of this research.

Merriam (2009:46) states that a researcher can use case study for its uniqueness on how to describe a phenomenon. Merriam (2009:49) puts that in multiple case study research, one single case belongs to the collection of cases. The single cases have similar characteristics or conditions. The cases are somehow under the same category and may be parts of a phenomenon. The purpose of having multiple cases in a research is because it increases external validity or generalisability of the findings (Merriam, 2009:50). Considering the importance of having multiple cases in a study, a multiple case study research with two school cases was done in this research.

The research was conducted in two secondary schools due to the nature of the study which is a phenomenon that demanded in-depth investigation. This, on the other hand, is because as Marczyk, De Matteo and Festinger (2005:148) say that case studies require a good amount of information in order to make a detailed and comprehensive conclusion.

4.3 RESEARCH SETTING, POPULATION AND SAMPLING

This part of the chapter deals with the research setting, population and sampling.

4.3.1 The Research Setting

The settings of this research were chosen based on the researcher's convenience. According to Bordens and Abbott (2011:120), as researchers decide on the design of the research, they also decide on the research setting. Among many factors, convenience, ethical considerations, and research questions affect the research site selection. Walford (2001:14) states that researchers choose their research site based on their convenience and access. In selecting a research setting, researchers have also to think about their time, financial costs, and distance, although this did not deter the researcher from collecting data. Although the sites were more than

1500 kilometres away from the researcher's work place, the research was too important to deter him from travelling.

The study was conducted in Tigray Regional State. Though there are many secondary schools in the region, two schools namely School A and School B were selected from the capital city of the region which is Mekelle. The researcher had reasons for selecting the schools. Firstly, Tigray Regional State was selected for the reason that the researcher knew some of the causes for disability such as diseases, accidents, and malnourishment. Secondly, the schools were found near to the researcher's birth place and the researcher had agood understanding of the setting of the schools and the community in general. Thirdly, the schools enrolled and taught visually-impaired learners together with sighted ones starting from Grade nine (9). Lastly, the schools were relatively better resourced than other schools not only in the city but also in the Regional State.

4.3.2 Research Population and Sampling

Lodico, et al. (2006:140) posit that researchers select their research participants based on the background of the participants and the researcher's intended purpose. They further indicate that research participant selection is based on the nature of the research. According to Vanderstoep and Johnston (2009:26), a sample of research participants is selected from a larger population. Lodico, et al. (2006:140) state that the population is the larger target group about which "the researcher wants to make statements". This research is a case study research. The participants of the research were chosen from two school cases. These selected schools were the only secondary schools in Mekelle city which admit Grade nine and Grade 10 visually-impaired learners. School A had a total population of 2645 learners. Out of this number, 916 learners were Grade nine and 1167 were grade 10 learners. Of these, 26 learners were visually-impaired but the school had no clear data on how many low vision learners it had admitted. In addition, the school had a total number of 76 teachers. Of this population, one school principal, 16 teachers and 12 learners participated in the research. School B had a total number of 2977 learners. Out of these, 552 were Grade nine and 794 were grade 10 learners. The school also had 25 visually-impaired learners but the school did not have a clear data on the number of its low vision learners. In addition, the school had 97 teachers. Of this population,

one school principal, 19 teachers and 12 learners were selected for participation in this research. Of the 12 visually-impaired learners, 10 of them were totally blind and two had low vision.

Cohen, Manion and Marrison (2000:92) state that the quality of research is dependent on the selection of a suitable sampling strategy. The sampling strategy used in this research was purposive sampling because the researcher wanted to know about the schools in depth and it was the best strategy to select suitable sample participants. According to Lodico, et al. (2006:140), the reason of using purposive sampling is the selection of information-rich participants. Lodico, et al. (2006:277) also state that a researcher selects participants that can give information to the questions asked. Furthermore, Neuman (2007:142) indicates that a researcher uses purposive sampling in selecting his/her research participants based on the objectives of the study. In relative terms, information-rich participants were selected for this study and the research was conducted in natural settings.

The reason for selecting school principals as participants was that they are the ones who are in the highest position at the schools and are believed to be responsible for the implementation of inclusive education in their schools. In addition, the principals were expected to have a better understanding of inclusive education and visual impairment as well. Teachers were selected because they were directly involved in the implementation of inclusive education and/or taught learners with abilities and disabilities. The learners were selected since they are the recipients of inclusive education.

The four teachers were selected purposefully based on their experience in teaching classrooms with visually-impaired learners. In addition to this, 40 teachers who taught different subjects to visually-impaired learners in their general classrooms were also selected purposefully because they were considered important in the study. First, the information they gave was multi-dimensional since the teachers had different educational and teaching backgrounds. Second, a good amount of quantitative data to triangulate and supplement the main qualitative data was collected. However, only 31 teachers returned the questionnaire. Twelve (12) visually-impaired and 12 sighted learners were also selected to take part. The criteria for selecting them were their experience, academic performance and participation in different activities in the

schools. The teacher and learner participants were from both sexes but the principals were all male.

4.4 THE DATA COLLECTION PROCEDURE

Anderson (1998:112) argues that data collection needs to have plainly-set, specific procedures. The data collector, who follows the procedures, should not affect the data collection; rather he/she has to collect data according to the procedures. Data collection instruments such as questionnaires and observations, which both are used in this research, should have clear instructions and schedules on how to collect data through them.

The data for this research was collected using three primary research instruments: interview, focus group discussion and observation. In addition, supplementary data were collected by means of a questionnaire. The researcher first had to get access to the schools and participants. O'Leary (2004:150) and Blaxter, Hughes and Tight (2006:154) say that gaining access to a site and participants is the first step in data collection. To collect the data, therefore, the researcher first wrote a letter requesting permission to conduct the study in the schools. Second, the researcher prepared an informed consent and learner assent letters to participants. So, research site and research participants were approached in the above-mentioned way.

The researcher established rapport with the research participants. During interview, the interviewer introduced himself and explained the purpose of the interview. The interviewer created a comfortable environment for the interviewees.

4.4.1 The Data Collection Instruments

According to Dawson (2007:28), research instruments are used to collect data for research. Singh (2006:212) states that data collection instruments are administered to the sample participants to collect data. Educational researchers collect data by either standardised tests or self-constructed instruments. This could include interviews, observations, questionnaires, testing or others to collect quantitative and qualitative data. Here, the researcher has to decide how much and what kind of data he/she wants to have and when to collect. He/she should be sure that the data collected will be used in the analysis of the study. Data are used in this research for the following reasons:

- Collection of data is very essential in any educational research to provide a solid foundation for it.
- It is something like the raw material that is used in the production of data. Quality of data determines the quality of research.
- It provides a definite direction and definite answer to a research inquiry. The inquiry has to give a definite answer to a research problem.
- The data are needed to substantiate the various arguments in research findings.
- The qualitative data are used to find out the facts and quantitative data are employed to formulate new theory or principles.
- Data are also employed to ascertain the effectiveness of new device for its practical utility.
- Data are necessary to provide the solution of the problem.

According to Rugg and Petre (2007:93) there is a wide choice of data collection instruments. from which the researcher can choose. In this study interviews, observations, focus group discussions and questionnaires were used to collect data. The four data collection instruments used in this research are explained and how they were used in this research are discussed below.

4.4.1.1 One-on-one interviews

Interviews were used in this study to collect data from two school principals and four teachers (two teachers from each school) who were purposefully selected. Anderson (1998:202) defines an interview as communication between people on an agreed topic. So, an interview is more than just communication. Gray (2004:213) also defines interview as a conversation between the researcher and participants. Anderson (1998:202) further says that interview is a widely-used method of data collection instrument. To mention the importance of interviews as a data collection instrument, Anderson says, “When used with care and skill, interviews are incomparably rich sources of data…” In doing interviews, Gray (2004:213) states that the researcher has to ask questions such as structured, semi-structured or unstructured questions. He/she has to listen carefully to the interviewee’s responses and record the ideas and may ask probing questions. Gray (2004:214) adds that interviews are good techniques to obtain ideas from participants when they do not

want to fill in a questionnaire but wish to talk about issues face-to-face. Gray further says that the research participants may not feel safe when they write their ideas on paper. They may also consider the interview as a means to express their ideas especially if they have never talked about the problems they encounter at work.

Sharing Gray's definition of interview, deMarrais (2004:54) states that the questions asked should be related to the research. These questions are intended to gain the thoughts, opinions, perspectives, or experiences of the participants. deMarrais (2004:52-53) again says that an interview, especially a qualitative interview, is used to gather in-depth information on a particular case from research participants. In doing so, the researcher has to create a good rapport with the research participants. Similarly, Anderson (1998:202) explains that an interview has many advantages. First, it is engaging to the research participant. That is why participants will respond to the questions. Second, the researcher can clarify questions for the participant. This makes interviewing attractive. Third, the researcher can understand non-verbal cues of the participant and the context.

According to Dawson (2007:28), there are many types of interview. The common ones are structured, semi-structured, and unstructured interviews. In this research, semi-structured interviews were used. Dawson (2007:29) points out that a semi-structured interview is the most common type of interview used in qualitative research. Gray (2004:215) explains that semi-structured interviews are "non-standardized". Denscombe (2007:176) and Gray (2004:215-217) further elaborate that the researcher has questions to ask the research participant but may not ask all of them; instead other additional questions may be asked when new issues arise. In this study, semi-structured interview was used to probe and ask new questions based on new opinions that came from the participants. Therefore, the semi-structured interview was useful to expand the interview and ask other, related questions.

For conducting semi-structured interviews, Dawson (2009:70) says that there could be list of questions to be asked. In this research a semi-structured interview was used with an interview schedule which had list of questions (Appendix A4 and A5). Though guideline questions were used, the researcher also used probing. The way the participants were interviewed was a single face-to-face interview in order to

make them feel free, confident, and relaxed. With their full consent, the interviewees were fully audio-recorded for transcription, discussion, analysis and interpretation. The interviews with the teachers were held after classroom observation for two reasons. One, as Kahsay (2013:34) states, is because it helps to avoid "risk of sensitizing the teachers" and the second reason is to lessen teachers' showing unusual behaviours. The interviews were held in the selected school compounds and were held for an average time of 45 minutes.

4.4.1.2 Observation

In this study, observation was also used to collect data from four teachers. O'Leary (2004:170) defines observation as "A systematic method of data collection that relies on a researcher's ability to gather data through his or her senses". This definition indicates that observation is systematic and the researcher should have the skill in doing it as the researcher is the primary data collector. Again, Denscombe (2007:206) explains that observation is different from other types of data collection instruments because it does not depend on other people's information. It is more direct and depends on the researcher's witness. Gray (2004:238) also states that observation gives the opportunity to the researcher to gather more information than what people give.

O'Leary (2004:172) indicates that there are two types of observation: participant and non-participant observation. In this research, non-participant observation was used. In this type of observation, the researcher is not a participant in the activities but only observes the situation. In this case, the researcher sat in one corner of the classroom and observed what was going on and also walked around in the school compound. O'Leary (2004:172) further elaborates that the observer is "physically present but attempt to be unobtrusive". The observation is for a fixed time and the observer uses a guideline. The guideline used in this research is found in Appendix A3.

Two kinds of observation were conducted during the study. There were classroom observations focusing on learners' participation, doing group work assignments, teachers' teaching methodology, and seating arrangements. The other kind of observation was school observation. This included observing the school setting and the facilities available which included the location of schools, availability of facilities

in the schools such as toilets, water supplies, light, materials, accessibility of buildings and space. In addition, the nature of staff-learners and learner-learner relationships in the schools was observed. Furthermore, a thorough observation was done inside the classroom. The elements observed included the size of the classroom, space between rows, class size, lighting, decor of the classroom, noise levels inside the classroom, availability and conditions of available assistive devices and materials, learners' activity, teachers' activity including teaching methodologies and strategies used by teachers, adaptations made for learners with visual impairments and seating arrangements of learners. Then, a general view of the school and classroom environment conditions to the inclusion of visually-impaired learners was observed. Regarding classroom observation, four teachers were observed while teaching in the actual classroom. Two teachers from each school were observed, with one teaching Grade 9 and another one teaching Grade 10 in each of the schools. The teachers were English language teachers as the researcher has an English language education background. This helped him to easily observe teachers' classroom teaching, text books, teaching aids and the teaching methodology. The observer also took notes of what he observed in addition to using the observation guide.

4.4.1.3 Focus group discussion

Focus groups also called discussion groups or group interviews were used to collect data from six visually-impaired learners and six sighted learners in each school. Focus group discussion involves a number of people who are selected to discuss a certain issue (Dawson 2007:30). Anderson (1998:212) defines a focus group as "a carefully planned and moderated informal discussion where one person's ideas bounce off another's creating a chain reaction of informative dialogue". Supporting the above idea, Ruane (2005:157) states that a focus group is a guided group discussion on topics provided by the researcher. Anderson (1998:212) states that the purpose of the focus group is to gather in-depth information from participants who share the same experience. The group setting is created to obtain as many opinions, attitudes and feelings as possible. Thus, Anderson (1998:213) mentions that focus group discussion is good for collecting qualitative data because it provides a natural, comfortable and safe environment. Marvasti (2004:24) describe that focus group stimulate participants and they do not feel bored. Participants have the chance

to respond to each other's ideas and create a natural discussion. Considering the above purposes of focus group discussion, this research used focus group discussion as one method of data collection. It allowed the researcher to collect data from participants about their attitudes, feelings, opinions and perceptions of the subject under study.

According to Kumar (2011:127), a focus group discussion promotes a free and open discussion between the researcher and the group participants; in this research it helped to gather a lot of information from the participants.

There are different views among scholars on the size of focus group such as Dornyei (2007:130) who says 6-12 or sometimes 6-10; Cohen, Manion and Morrison (2007:235) say 6-10; and Kumar (2011:128) says 8-10; but what is important regarding the group size is that the group should not be too large or too small (Kumar, 2011:128) because it can negatively affect the group discussion. In relation to Kumar's idea, Dornyei (2007:130) says, "Fewer than 6 people would limit the potential of the 'collective wisdom' whereas too large a size makes it difficult for everyone to participate". In this research, the minimum size was taken which is six. In each school, there were two groups: a sighted-learners' group and a visually-impaired learners' group which meant that there were four groups each having six learner participants. The learners who participated in the focus group discussion were grouped based on their commonality (Anderson, 1998:213); visually-impaired learners and sighted learners were each in their own groups. Vanderstoep and Johnson (2009:235) point out that selecting group participants in this type of data collection instrument is not random. Thus, the learner focus group participants were purposefully selected based on their academic performance and participation in different school activities. Kumar (2011:161) advises that the focus group discussion should be audio-recorded with permission from the participants. Consequently, after the researcher got permission from the participants, he recorded all the discussions.

4.4.1.4 Questionnaire

This research used a questionnaire to collect quantitative data from teachers. To explain what a questionnaire is, Singh (2006:191) defines it as a form designed and disseminated to gather information. The questions in the questionnaire are prepared to obtain information from research participants who are believed to have knowledge

about the subject matter. In addition, Denscombe (2007:155) and Kumar (2011:145) define a questionnaire as a written form of data-gathering instrument on which participants write their responses. Gray (2004:187) also explains that a questionnaire is a data collection instrument where participants are asked to respond to the same questions. Gray adds that questionnaire is a popular primary data gathering instrument. Care must also be given to its design. As case studies can use different types of data gathering instruments, questionnaires can also be useful to gather data. A questionnaire used to gather data in case studies, therefore, should not be very structured because its aim should be to obtain in-depth information from small number of participants. In this research, as mentioned above, questionnaire was used as a data collection instrument. The questionnaire used in the present research was not very structured. However, there were closed-ended items from which the respondents were expected to choose an alternative that they though was right.

According to Anderson (1998:179), questionnaires can be used to gather "reliable and reasonably valid data" in a cost-effective way. While designing a questionnaire takes time, gathering data through it is time-effective and simple. It can also be used to gather both quantitative and qualitative data at the same time (Anderson, 1998:192). In explaining the advantages of questionnaire, Gray (2004:188) lists down the following:

- They are low cost in terms of both time and money. In contrast to, say, interviews, questionnaires can be sent to hundreds or even thousands of respondents at relatively little cost.
- The inflow of data is quick and from many people.
- Respondents can complete the questionnaire at a time and place that suits them. This is in contrast to interviews, when it can be difficult to find convenient times to meet the respondent.
- Data analysis of closed questions is relatively simple, and questions can be coded quickly.
- Respondents' anonymity can be assured.
- This is a lack of interviewer bias. There is evidence that different interviewers get different answers because of the way in which they place different emphasis on

individual words in questions and because of the different probes (additional questions) that they follow up with.

Denscombe (2007:165) indicates that a questionnaire can have different items in it such as open and closed questions. The questionnaire used in this research had both open-ended and closed-ended questions. Denscombe (2007:165-166) describes the difference between open and closed questions saying that, while open questions are those questions which require the participant to answer by using his/her words, closed questions require the participant to choose his/her answer from given alternatives. The advantage of open questions is that the participant can provide as much information as possible freely. Cohen et al (2007:321) also state that closed questions are useful when the possible answers are unknown. On the other hand, the advantage of closed questions, according to Cohen et al (2007:321), is that responses are easy for numerical analysis. They are also useful to compare participants' responses.

Another item type included in the questionnaire was Likert scale questions. According to Gray (2004:197), a Likert scale is used to measure how respondents agree or disagree with statements. Hence, statements which asked participants to show their agreement or disagreement are used in the questionnaire of this study.

The questionnaire used in this study had 64 questions. A total number of 31 teachers filled in the questionnaire out of 40 selected teachers. Nine teachers did not return the questionnaires to the researcher. The teachers who completed the questionnaire were selected from the two schools. They were selected because they taught visually-impaired learners in their classrooms. Hard copies of the questionnaires were distributed to the teachers by the researcher. Clarification on some of the questionnaire items was provided. The data gathered by means of the questionnaire were used as supplementary data gained from other instruments. This was done by calculating the percentage of the participants' responses to a single item. The questionnaire also helped to reach more teachers and obtain their opinions.

4.4.2 Methods of Data Analysis

In this study the data gathered were organised in an analysable format where transcripts were prepared from interviews, focus group discussions and written

answers from questionnaires as well as observation/field notes. Hatch (2002:148) defines data analysis as systematic meaning formulation. It is a way of analysing data in order to share it to others. Data analysis consists of steps such as synthesis, evaluation, interpretation, categorisation, hypothesising, comparison, and pattern finding. Hatch (2002:148) says that data analysis always involves 'mind work'. Researchers need to apply critical thinking to give meaning to the data. Yin (2003:110) supports the above idea saying that data analysis involves examining, categorising, tabulating, testing, or mixing both qualitative and quantitative data. What is difficult is analysing case study evidence because the strategies and techniques have not been specified. Boulton and Hammersley (2006:246-247) point out that it is rare to find data in an analysed form. They are generally obtained as raw data. The data, therefore, has to be either audio- or video-recorded. Then the researcher will listen and transcribe the data. The researcher has to familiarise himself/herself with the data before data analysis.

In this research, data gathered from a questionnaire were computerized and analyzed by an expert in statistical analysis whereas data gathered from interviews and focus group discussions were audio-recorded and transcribed. Data collected in hard copy were also organised for reading. Then, a thorough reading of all the data was done in order for the researcher to familiarise himself with it. According Ben-David (2011:153), qualitative data analysis consists of preparing the data, organising the data and grouping the data into different themes. In this research, then, themes were identified and data were grouped accordingly. To put the data into thematic categories, data coding was used. The coding involved three steps.

Firstly, open coding, which enabled the researcher to examine the whole data, was done. Neuman (2007:330) explains that open coding is a first trial to place data into different themes. In this coding process, the researcher groups data into categories and codes. Merriam (2009:200) also states that it involves data-labelling relevant to the research. Neuman (2007:330) says, "Open coding brings themes to the surface from deep inside the data". Here, the researcher should not give emphasis to the connection of themes or elaborating the themes (Neuman, 2007:331).

Secondly, axial coding, which helps to revise the thematic categorisation for any improvement, was applied. Axial coding, according to Neuman (2007:331), is the

second step which helps the researcher to focus on the actual data and labels data for themes. In this phase of coding the researcher gives emphasis to the themes rather than the data. If additional codes are seen, the researcher has to note these. In this step of coding, the researcher looks at the connections between data and themes. Merriam (2009:200) says that axial coding is “refining the category scheme”. In general, the aim of axial coding, according to O’Donoghue (2007:94), is to create linkages between categories and sub-categories.

Lastly, selective coding was implemented so as to code the data systematically and put them under different categories. Selective coding according to Neuman (2007332) helps the researcher to put the major themes together. Then the researcher scans data and previous codes. Merriam (2009:200) also indicates that core categories are created in this stage of coding. Consequently, data were grouped under different categories in this research.

According to Hatch (2002:148), there are different approaches and paradigms of data analysis which may lead to different data analysis strategies. Dawson (2007:114) states that the method of data analysis could depend on the type of research conducted, the researcher’s choice and educational backgrounds. This research is a mixed methods research using a constructivism paradigm. Consequently, interpretations were made from the data. Anderson (1998:112) says that qualitative data are analysed in interpretive ways. The researcher makes meanings from the data. Therefore, the data reported should show the situation. According to Creswell (2012:479) the analysis consists of description, analysis and interpretation of the data.

The data analysis of this research had two stages. Firstly, analysis of data gathered by individual data collection instruments was done, and secondly a simultaneous discussion of results gained by the instruments was done. A discussion of results in relation to literature was made during both analysis stages. The data gathered from the four instruments were analysed separately under the themes which emerged from them. Consequently, individual instrument results were compiled. Then, a discussion of results under different themes was made. In the discussion of results, results from the individual instruments were discussed together under themes and sub-themes. In the discussion of results, the primary results were discussed

compared, triangulated and supplemented by results found from the questionnaire. Some data used from the questionnaire were used in percentages in the analysis. Quoted and paraphrased opinions and views of interview participants were used in the analysis. Observation notes were also narrated.

4.5 MEASURES TO ENSURE TRUSTWORTHINESS

Human (2010:70) says that in qualitative research, validity is another word for truth and reliability which means the consistency of measures. Though the common term used to describe the validity of research is trustworthiness (Human, 2010:70), Gray (2004:345) writes that some researchers believe that trustworthiness is more important than concerns over validity or reliability. Denscombe (2007:134) explains that triangulation can be done through the use of different data collection methods. The trustworthiness of this study was proven by triangulating, i.e. by using four data collection tools namely interviews, observation, focus group discussions and a questionnaire with both quantitative and qualitative questions. The data collected from the tools were examined and used to build a coherent justification for themes. Again, since having more cases increases validity and generalisation of findings (Merriam, 2009:50), two case schools were selected in this research. Trustworthiness, as Gray (2004:345) puts it, means that the findings are characterised by credibility, transferability, dependability, and confirmability.

Credibility is proven through triangulation in which different methods of data collection are used, theories and investigation. It can also be done by applying member checking where data gathered and interpretations made are approved by the research participants (Gray, 2004:345). Member-checking was used to decide the accuracy of the findings by taking the findings back to the participants to see whether they felt that they were accurate.

Transferability means that the application or generalization of research findings to other situations (Human, 2010:71). Human adds that it is difficult to generalise qualitative research findings to other situations because it focuses on in-depth description of phenomena. However, qualitative researches could indicate some degree of transferability to similar situations. What was differently done in this research was that to get some degree of generalisation in addition to an in-depth

description, many teacher research participants were addressed through questionnaire to share their views and a good amount of quantitative data was used.

Dependability relates to the consistency of the data. For this, the researcher has to describe the context fully, how data were collected and analysed (Human, 2010:71). In this research, a thick description was used to draw the picture of the setting in the mind of the readers in order to give the discussion an element of shared experiences.

Confirmability is the connection between the data and interpretations made by the researcher (Gray, 2004:345) or the researcher asks the research participants to approve the analysis and conclusions made from the data (Human, 2010:71). In this research, the researcher went back to the research site and discussed the conclusions drawn with the research participants.

More importantly, the researcher spent enough time in the research area so as to understand the context in-depth and report in unbiased way. At the same time, contrary data were part of the themes to increase the credibility of the findings. Lastly, the entire research was reviewed by an external reviewer who could provide an assessment of it.

4.6 ETHICAL CONSIDERATIONS

Research which is conducted with people has risks. These risks could include minor discomfort and more sensitive questions which may affect participants' physical or emotional state (Marczyk, et al, 2005:233). Research that does not consider ethical issues is "incompatible with a fundamental ethical obligation" to the safety of research participants (Ruane, 2005:17-18). Ruane (2005:18-19) further states that it is difficult to guess what will happen when the research will be conducted but the researcher should not forget the 'do no harm' principle. Flick (2007:69) mentions that there are principles of ethically-sound research. These consist of an informed consent by which the participants acknowledge that they understand what the research is about and agree to take part in the research, no deception of the research participants, protecting the privacy of the participants, accuracy of the data, respect given to the participants, safety of the participants, and justice which shows the pros and cons of participating in the research.

The researcher has to consider the ethical issues that would negatively affect the research site and participants while the research being conducted. Creswell (2012:23) states that the researcher has also to respect the research site. To do so, the researcher may ask for permission to gain access to the research site. In this research, the researcher wrote a letter to the schools to conduct study and got permission. He also prepared a letter to get permission from participants and parent/guardians of children to participate in the study since Creswell (2012:169) points out that obtaining permission before data collection is an ethical way of doing research.

Creswell (2012:169-170) also advises that research participants' privacy should be respected. A researcher can respect participants' privacy by not mentioning things that could identify them as who they are in the research. Therefore, the data gained from participants must be confidential and respect those individuals who do not want to participate in the study or withdraw from the study. Supporting this idea, Dawson (2007:151) advises that the researcher has to assure the anonymity and confidentiality of the research participants. The anonymity and confidentiality of the research participants is respected in this research.

Since some of the research participants were visually-impaired learners, their vulnerability to be harmed was considered. Thus, an informed consent and learner assent letters were prepared. Through those letters, the research participants had full information about the research and all the advantages and drawbacks of participating in the research. Oates (2006:213) states that the researcher should not gather data without the informed consent of the participants. Research participants were also informed that they had the right to withdraw at any time from the study if they did not want to participate. Participants, especially visually-impaired learners, had full information on how, when and why they participate in the research. Questions which could discomfort the learners were not asked. Interviews were done with full consent and assent of the learners at a safe place. Parents/guardians of younger than 18 years of age learners were consented and above 18 years of age learners were requested for their consent to participant in the research. The consent and assent letters were read for the visually-impaired learners. During the interviews where visually-impaired learners participated, the learners were happy to participate and nothing that affects their confidentiality, anonymity or comfort was sought.

4.7 CHAPTER SUMMARY

This chapter dealt with the methodology used in the present research. It discussed the types of research paradigm and design followed which are the constructivist paradigm and mixed methods research design. It also explained the research settings of the two school cases. A discussion was provided on the research population of principals, teachers and learners, and the sampling method used that was purposive sampling. The instruments used to collect data in this research were interview, focus group discussion, observation and questionnaire. These data collection instruments were described and an explanation was given of how they were used in the research. The procedures followed during data collection stage were also described. The procedures included gaining access to the schools and participants to collecting all the necessary data for the research. A detailed discussion of how data were presented and analysed was done. Data were organised in an analysable format. Transcripts were prepared from interviews, focus group discussions and written answers from questionnaires as well as observation/field notes. Then data were analysed. First, individual instrument data analysis was done followed by discussion of results. Meaning was constructed from the data.

A discussion of the measures taken to ensure the trustworthiness of this research was provided. The measures taken to ensure the trustworthiness of this research included triangulation, member checking, addressing many teachers through questionnaire to provide for generalisation of this research and thick description of the data. In addition, a discussion was held with the participants on the conclusions drawn, and the researcher spent enough time in the research sites to understand the context in-depth and avoid bias in the report.

Ethical issues considered in this research were elaborated. The ethical issues considered in this research included preparing written permission letters to schools, consent forms to participants and parent/guardians of children, and assent letters. In addition, the anonymity and confidentiality of participants was respected.

CHAPTER 5

DATA PRESENTATION AND DISCUSSION OF FINDINGS

5.1 INTRODUCTION

This section presents data description and analysis of the schools studied in this research. First a description of the schools' settings is presented. Then, the data description under different categories follows. The individual schools are coded as School A and School B. The data gathered by the four instruments described in Chapter 4, namely interview, focus group discussion, observation and questionnaire are presented and analysed separately under the themes that emerged from them. Again, the demographics of the research participants are presented under each data collection instrument they participated in.

5.2 THE SCHOOLS SETTINGS

5.2.1 School A

School A is located in the capital city of Tigray Regional State which is Mekelle in northern Ethiopia. Mekelle is 785 kilometres from Addis Ababa, the capital city of Ethiopia. The school which is found in the city is located in the North-West of the area. The school is surrounded by three roads. One of the roads is a main road and is surfaced with cobble stones, but the other roads are dust roads. In addition, the school is located among residential houses. The school is far from the centre of the city and from public libraries and libraries for the visually-impaired learners which are found in the city.

The school has three buildings. The buildings have up to four floors. In addition, there are other small buildings which are used for administrative offices of the school. Inside the school compound, there are two toilets, one for females and the other for males. There are three water taps. The school also has a very dusty sport field. The school has only one gate and a good fence. Inside the school compound, there are trees and short bushes but the school ground are not green. It is not also large enough. There is a small closet-like cafeteria in the administrative office building. Inside the cafeteria, no more than five customers can sit to have coffee or tea.

School A was established in 2005 as a Secondary and Preparatory school. Since then, it has to enrolled grade 9 and grade 10 learners. From the start, the school accepted visually-impaired learners. In 2015, the school had a total of 2645 learners including grade 11 and grade 12. Out of those learners, 916 learners (457 males and 459 females) were in grade 9 and 1167 (555 males and 612 females) were in grade 10. Out of those learners, 26 were visually-impaired learners. However, the school did not have an accurate number of low vision learners. The school also had a total number of 76 teachers which included 55 males and 21 females.

5.2.2 School B

School B is located in the capital city of Tigray Regional state, Mekelle, which is 785 kilometers to the north of Addis Ababa, Ethiopia. The school is located in the South-West of Mekelle. The school is surrounded by four roads and is close to a market place. All the roads are dirt roads. One of the roads is a main road which is used by many vehicles including big trucks. The school is far from the centre of the city and from public libraries and libraries for the visually-impaired learners which are found in the city.

The school has two buildings. One of the buildings faces to the west to one of the roads and residential houses which face away from the school compound. The buildings have four floors. Inside the school compound, there is a plain, dusty sports field. There are discarded, broken chairs, bricks, dumps of sand and barbed wires visible. The school has one water tap which sometimes does not work. In addition, there are two toilets in the school; one of them is for females and the other one is for males.

The school was established in 2012 as a Secondary School. However, the school also enrolls grade 11 and grade 12 learners. The school, then, started teaching secondary school learners since its establishment, but the school started accepting visually-impaired learners in 2014. In 2015, the school had a total number of 2977 learners including grades 11 and 12. Of those learners, 552 of them (261 males and 291) females were grade 9 learners and 794 (373 males and 421 females) were grade 10 learners. Again, out of those both grades learners, 25 were blind learners, but the total number of low vision learners was unavailable. The school also had a total of 97 teachers of which 71 were males and 26 were females.

5.3 INTERVIEW RESULTS

In this research, a total of six participants were interviewed. The interviews included the school principals of School A and B and four teachers i.e., two teachers from each school. The interviewed teachers were those who taught grade nine and ten general classes which had visually-impaired learners. The type of interview used was semi-structured interview. The full interviews were audio-recorded with the permission of the participants. For the purpose of analysis, the audio-recorded interviews were transcribed. Then, data were coded and themes emerged. The analysis of data collected by interviews is described below under the different themes that emerged, but first the description of the interview participants is presented.

Table 5.1: Description of the principals

Principal	**Gender**	**Age**	**Qualification**	**Service Year**	**Specialisation**
School A principal	M	48	MA	28	EDPM*
School B principal	M	36	MA	21	EDPM

* EDPM=Educational Planning and Management

According to the above table, School A principal, who is aged 48, had served for 28 years whereas the principal of School B is 36 years old and had served for 21 years. Both the principals have the same qualification and specialisation that is they have second degree in Educational Planning and Management. Important to note about the last principal as it may seem the age does not correspond with his teaching experience. This principal started his first grade at the age of 5. He was promoted twice between grades 1-5. Then he completed grade 12 at the age of 14 and joined Teachers Training Institute (TTI). He completed a one-year teacher certification programme and graduated at the age of 15. Then, he started working as a teacher at the age of 15.

Table 5.2 Biography of the teachers from school A and B

Teacher	Gender	Age	Qualification	Years of Service	Field	Grade level he/she teaches	Number of learners in	Number of learners with visual impairment in his/her	Type of leaners' visual
T1(A)	M	38	BA	15	English	9 &10	75	5	Both*
T2(A)	M	50	BA	24	English	9	74	3	Blind
T3(B)	M	45	BA	20	English	10	59	3	Both*
T4(B)	M	34	BA	15	English	9	55	2	Both*

* 'Both' represents blind and low vision
*'A' stands for school A and 'B' stands for school B

The above table shows that all the interview participants were male teachers and had a BA degree in English. While three of the interview participant teachers were in their 30s, one teacher was 50 years old. Two of the teachers had 15 years' service and the other two had 24 and 20 years' service. One teacher out of the four teachers taught both grade 9 and 10. The other three teachers taught either of the two grades. Looking at the number of learners in the teachers' classrooms, the two teachers from School A had 75 and 74 learners. The other two participant teachers from School B had lower numbers of learners in their classrooms: 59 and 55. One of the teachers from School A, who taught both grade 9 and 10, had more visually-impaired learners in his classrooms than the other teachers, but the remaining teachers had a two or three close number of visually-impaired learners either. Except for the second teacher from School A, who teaches only blind learners in his general classroom, three of the interviewed teachers teach both blind and low-vision learners in their general classrooms.

The themes that emerged during interview with the participants in School A and B are as follows:

5.3.1 Professional Training

UNESCO (2005:21) argues that inclusive learning of the learners has a direct relationship with teachers' training. Therefore, professionals who have roles in the learning of the learners should receive appropriate training. Ainscow, et al. (1998:30) and Mutisya (2010:37) support this idea when saying that teachers' training in pre-service and in-service helps in bringing about educational change. In other words, teachers are the main actors to bring new educational ideas to the classroom.

The principals of both schools were asked if they had done any training on managing and implementing inclusive education. The principals' response was that they had received training at different service times. School A principal responded that, "*I took an inclusive education course in my undergraduate studies whereas"* School B principal said that, *"I received in-service training by an NGO called Sun Way Ethiopia and some other teachers received Training of Trainers (ToT) training*." School A principal reported that the course he took was helpful to handle learners with visual impairment and other types of impairments. School B principal also stated that now he can write and read in Braille after he received the training.

Regarding teachers' training, School A principal indicated that two teachers from his school received training in inclusive education by Tigray Region Education Bureau for two weeks. He also added that other 70 teachers participated in a two-day training course organised by Mekelle University on how to handle visually-impaired learners. The interviewed teachers from both schools, however, reported that, except for the fact that they took Special Needs Education in their undergraduate degrees, they did not receive any training on how to include visually-impaired learners in their classrooms. A teacher from School A (T1) indicated that he faced challenges in teaching visually-impaired learners in his general classrooms though he said that he was taught how to teach those learners while doing his undergraduate degree. In addition, a teacher from School B referred as T4 said that, "*In my experience, it was challenging to me. How can I assist them? How can I help them? I don't have any information on how I can assist those who are disabled because the training is not available for the teachers here*." The teacher added that even the Special Needs Education course he took was a long time ago in 1991. In relation to this, Tirussew (2005:109) found that teachers in Ethiopia are teaching learners with disabilities

without receiving training and administrative assistance. Again, the teacher said that he had never taught visually-impaired learners before he was transferred to the current school. As a result, the teachers recommended that they should receive both pre-service and in-service training on how to teach learners with impairments in their classrooms. Similarly, Mariga, et al. (2014:90) suggests that though pre-service training are mandatory, teachers should receive in-service training as well. In addition, Asrat (2013:66) suggests that professional training should be continuous.

5.3.2 Collaboration among Professionals

The interview participants were asked whether they consulted or collaborated with professionals. School A principal reported that there were one counsellor and two coordinators who consulted and collaborated with his school community. A teacher from his school (T1) also stated that there was a counsellor who specialised in Special Needs Education in the school and that he advised him. He said that the counsellor had been helpful on giving him information about visually-impaired learners. School B principal reported that his school collaborated with professionals from School A because School A had a better experience of teaching visually-impaired learners. He also indicated that his school received professional support from the Regional Education Bureau and Sun Way Ethiopia, but the three teachers and School B principal reflected that the teachers did not collaborate with other professionals in teaching visually-impaired learners. The reasons are reported as follows. The second interviewed teacher (T2) from School A said that he did not consult anyone since there was no professional in Special Needs Education or Inclusive Education at his school. Another teacher (T4) from School B also said that, "…*I don't think there is a person who collaborates with you so as to help the visually-impaired learners*…" Most of the interviewed teachers reported that since most of the teachers in the schools did not receive training, they did not consult, co-teach or collaborate with one another or other professionals. The respondents also explained that the outside school stakeholders collaborate only with school principals and very few teachers. This result coincides with what Ertesvag (2011:1) maintained, namely that there was no professional collaboration among professionals and teachers in previous times. Supporting Ertesvag's idea, Lujan (2009:18) posits that there are teachers who do not like to collaborate with others. This could emanate from lack of training given to teachers on collaboration (Stolarski, 2011:4).

5.3.3 Appropriate Educational Assessment used by Teachers

The interview participants said that they assess visually-impaired learners' learning similar to other learners such as sighted learners. For example, T2 said the following on how he assesses visually-impaired learners' learning:

> *I assess the visually-impaired students like the sighted students. Five minutes I give to sighted, five minutes I give to visually-impaired, but what is the difference between them is for the sighted students I read one or two time if I give them choosing, matching and so on. Then I read it two or more times. The students then listen and answer the questions. Otherwise there is no … difference for the visually-impaired students. There is no difference in the types of questions for them.*

The above result contradicts Salvia and Ysseldyke's (2004:163) discussion that assessments should consider learners' conditions because this can affect assessment of their skills and abilities.

In addition, T1 reported that "*the visually-impaired learners choose sighted learners to read questions and write answers for them otherwise teachers read exams to the visually-impaired learners repeatedly. Sometimes invigilators may write learners' answers to questions on papers",* but the problem that the teacher mentioned is that the invigilators become tired because they read many times for the learners. The visually-impaired learners also choose invigilators.

All the interview participants from School B indicated that the visually-impaired learners especially the blind learners did not have Braille books. The teachers said that when they gave tests, the teachers themselves and sighted learners helped visually-impaired learners by reading. T3 reported that, "*visually-impaired learners do not have text books. So, I give other assignments to the visually-impaired learners than from the text book",* but the teachers described that they did not have enough time to do this properly. Regarding allocating extra/additional time for visually-impaired learners, the participants said that they did not allocate additional time to the learners for various reasons. T1 stated that, "*Because the time limit is 40 minutes for the class, we teach for half of the time and use the other half for test. So, it's not enough for them, but I try to fulfil their needs as much as possible."* The other teacher (T4) from School B reasoned that, due to the fact that teachers have to do

work other than teaching to survive, he did not allocate extra time for visually-impaired learners' assessment. The statements uttered by the participants of not allocating extra time can be detrimental to the visually-impaired learners. Allocation of extra time is very important in supporting learners with disabilities: Loreman, et al. (2005:16) indicate that including learners with disabilities such as visually-impaired learners requires allocating extra time.

The teachers added that they had never prepared assessments in Braille or other means by which visually-impaired learners could do the assessment by themselves. The participants indicated that during tests or exams either teachers or sighted learners read and wrote for the blind learners. The teachers also stated that there were no books in Braille for blind learners and blind learners faced problems in doing assignments. As Salvia and Ysseldyke (2004:163) state, this signifies that assessments which do not consider learners' impairments are unfair and are not appropriate assessments. Overton (2012:4) indicates that assessment plays a crucial role in the determination of learners' outcomes. Their inappropriately-assessed learning could also lead to their exclusion from the school setting. Therefore, assessments should be prepared in ways that consider learners' impairments.

5.3.4 The Awareness of the Community about Visually-Impaired Learners

School B principal explained that his school had made the community aware about inclusive education and visually-impaired learners through the mini media of the school, sub-city mini media and FM radio of Mekelle city. He added that the school had also made the community aware during meetings. In addition, the principal reported that the visually-impaired learners themselves had made the community aware by showing that they were engaging in soccer games and reading poems. All the teachers from both schools and School B principal agreed with the School A principal's idea on the learners' awareness-creation activities. All the interviewed participants indicated that,

> *Visually-impaired learners themselves are active and clever learners. So, they are trying to make the community aware that they can learn and do other activities. They also said that some of the visually-impaired learners were athletes. There were some jumpers and*

> *runners. They had represented not only their school but also the region.*

Through the visually-impaired learners' involvement in different activities, the community around them was gaining some awareness, but School B principal said that his school, like School B, did not raise awareness in the community in or outside the school through media.

Regarding the awareness of the community about visually-impaired learners, School B principal said that, "*Our society doesn't know how the visually-impaired students learn in the class and how these students are active like others. They ask them how they learn because they don't have any text or exercise book."* In relation to the culture of the society, the principal further said that:

> *In our culture, the society does not support them believing that their impairment comes from God and if they support them, they fear that the impairment may go with them to their homes. … most of our society is not educated. They have different beliefs and they believe that the impairment comes from God or from others.*

In this way, the principal confirmed that society did not have awareness about visual impairment and the visually-impaired learners. T3 also responded that "…*our people do not understand them easily*." In addition, the principal stated that "*the culture of the society is a barrier to the inclusion of the learners inside or outside the school."* In relation to this, the MoE (2012:43) states that Ethiopian communities have negative attitudes towards persons with disabilities including visually-impaired persons. A study by Etenesh (2002:xi) also reveals that there is still exclusion of visually-impaired learners by the community, but, as a solution, School B principal said that his school should offer awareness training to the community around the school but it had not given such training to the community or tried to make the community aware in any way. Again, a study by Knouwds (2010:110) recommends that the community should be made aware of visually-impaired learners.

5.3.5 Attitudes towards Inclusive Education and Visually-Impaired Learners

Regarding the communities' attitude towards visually-impaired learners, School A principal alluded that, "*…the societies outside and inside our school have positive attitudes for them."* He added that:

> *…the outside society in general has positive attitude. They help them, for example, at the construction of coble stone roads, the society shows them the direction of the school and also they bring them to the school. This shows positive attitude for them.*

The school principal stated that teachers have good attitudes towards the inclusive programme and visually-impaired learners. He said that teachers treat visually-impaired learners in a special way and arrange programmes for the learners. He added that fellow learners also had positive attitudes towards visually-impaired learners. Sharing School A principal's idea that the school community has a positive attitude towards inclusive education and visually-impaired learners, School B principal blamed the outside school community for having negative attitudes towards the learners. As an example of the community's reflection of its attitudes towards the learners, he explained that the community did not give them directions to the school when they struggled to come to school. This was due to the wrong beliefs that the community had (MoE 2012:43). According to the MoE, the community has a belief that if a pregnant mother looks at a blind person, she will give birth to a blind child.

School A principal put that when visually-impaired learners go to the school to register, "*We don't return them back home but we accept them.*" He added that:

> *The overall situations of our school, teachers, the students and the society have positive attitudes to them (visually-impaired learners). And also the sighted students learn with the impaired learners by helping and becoming friendly to them. They also work on different activities together.*

On the other hand, the participants responded that they have positive attitude towards inclusive education. The respondents stated that inclusion is good for the learners since it has advantages to both visually-impaired and sighted learners.

In explaining the attitudes of visually-impaired learners towards others, T1 responded with contrasting views. He said that visually-impaired learners are

sociable. He said that they show a good attitude when someone approaches them, but if an individual does not approach them, they do not approach them either. For this reason, blind learners select individuals to associate with. Again, he added that visually-impaired learners have good attitudes in some cases but not in most cases. T2 also described visually-impaired learners' attitudes towards teachers and other members of the school as having even better attitudes than the sighted learners. Similarly, T3 reported that, "*While blind learners have positive attitudes, low vision learners do not have the same attitude towards others".* He further said that one of the blind learners he taught had a good interaction with the school community. So, he stated that this was one indication that learners had a good attitude towards the community. However, the teacher said that the sighted learners had a negative attitude towards low-vision learners. The teacher elaborated that some learners use taboos against low-vision learners. T4's response to the question was mixed. He said that visually-impaired learners did not have positive attitudes towards the community but not to the school community. In relation to attitudes, a study by Gezahegne and Yinebeb (2010:89) shows that there is still a negative attitude towards persons with disabilities including visually-impaired learners in Ethiopian schools. Again, Knouwds (2010:111) found that there are many teachers and learners who have negative attitudes towards visually-impaired learners. To solve these attitudinal problems, Briggs (2004:54) advises that appropriate training can be given to change the attitudes and such training guarantees that everyone is 'singing from the same hymn sheet'.

5.3.6 Availability of Inclusive and Flexible Curriculum

Regarding the curriculum, School A principal said that "*my school has the same curriculum for all types of learners including the visually-impaired learners, but the visually-impaired learners are treated in a special way"*.

T1 also indicated that "*there are no available instructional materials designed according to the curricular needs of visually-impaired learners"*. Sharing T1's idea, T2 confirmed that he did not adapt the curriculum to meet the visually-impaired learners' conditions even though scholars such as Salisbury (2008:22) and Mastropieri and Scruggs (2010:6) advise that curricular adaptations should be made according to the learners' needs. A study by Demetros (2007:viii) indicates a similar

finding that visually-impaired learners do not generally have special materials prepared for them in their hand or in the schools' libraries.

Smith et al. (2008:526) suggest that the curricula should be designed with consideration for the learners' conditions, but what all the interviewed participants agreed on was that, "*There is no availability of flexible curriculum for the inclusion of visually-impaired learners. The curriculum was prepared for sighted learners only. There is no instructional material prepared based on the educational needs of the learners. The text books which are available for all types of learners have pictures".* As a result, they believed that their inclusion had not been successful. To solve the problem, the interview participants recommended that learning materials such as text books should be available for the visually-impaired learners to realise their inclusion in education.

5.3.7 The school environment and its accessibility

School A is located among residential houses. It is also surrounded by three roads, one of which is a main road, but the school principal said that "*there is no disturbance from cars*, although *"the school compound is narrow while there are around three thousand (3000) learners in the school".* He reported that the school compound is not big enough. Learners could not move about easily. He claimed that the school had learners in two schools. The school catered for grade nine (9), ten (10), 10+1 (equivalent to grade 11 but a preparatory school level) and 10+2 (equivalent to grade 12 but a preparatory school level) learners. He, then said that grades nine (9) and ten (10) would be in one school and 10+1 and 10+2 in another school in their own compounds in the future. For this reason, he said that his school had informed the Regional Education Bureau that they need another school for either grade 9 and 10 or 10+1 and 10+2. Similarly, School B principal said that:

> *My school is not suitable for the students especially for the visually-impaired. Even our compound and outside the compound is not suitable for them. The school is built like a tower. I don't know why the government of the regional state built them [like this]. Even the toilets or the compound itself is not suitable for them.*

The principal added that there were big trucks which passed by the school. The noise coming from those trucks disturbed visually-impaired learners' learning. He

added that there was a market place close to the school. The music and sound coming from the market place was also another challenge for them and the visually-impaired learners. Similarly, T4 said that since there were many learners inside the classrooms, the noise of learners affected visually-impaired learners' learning. In addition, T1 and T2 teachers reported that *"since the school is crowded there is noise disturbance which is hampering the learning of visually-impaired learners as they depend on listening. For this reason, the school is not good for the visually-impaired learners"*. A study by Knouwds (2010:112) also showed that school environments were not conducive for visually-impaired learners. In light of this, Lewis and Doorlag (2011:151) note that the comfort level of teachers and learners depends on factors such as noise level. If such things are not well planned, they negatively affect the teaching and learning process, especially visually-impaired learners' learning because their learning mostly depends on listening.

The interviewed participants reported that, "*the school environment is not comfortable for visually-impaired learners. Some of its facilities such the classrooms and toilets are not accessible".* According to School B principal, his school lacks many facilities. The school has shortage of water. There is no toilet for visually-impaired learners. They have only one toilet common for all learners. Regarding hygiene of the toilet, the principal said that there are cleaners who always clean it and learners clean it once a week on Friday. T3 indicated that the buildings have four floors and visually-impaired learners are assigned to classrooms of those floors. The data shows that the physical environments of the schools are not inclusive and they are inaccessible. A similar study by Matewusi and Naong (2014:337) revealed that inappropriate infrastructural resource is one of the factors affecting visually-impaired learners learning.

5.3.8 Availability of resource and support

Walther-Thomas, et al., (2000:38) discuss that for the effective implementation of inclusive education and the inclusion of learners with disabilities, availability of adequate resources and support are mandatory. To the contrary, interviewed participants in this research were not confident to say that these things are available in the schools. School B principal stated that, "*there are only two subjects (Civics and Biology) which are audio-recorded for the visually-impaired learners otherwise*

other audio-recorded resources available are like a chapter or two". He said that recordings were done by voluntary teachers. All the teachers from the two schools also complained that there were no available resources for the learners and the teachers themselves to use. The teachers specified that that they could not find any resources including reference books on how to teach visually-impaired learners. A study conducted in Spain by Simon, et al. (2010:566) found that schools do not have resources. Mwakyeja (2013:30) also found that teachers do not have the knowledge of how to teach visually-impaired learners in inclusive schools. Furthermore, studies by Assefa (2008:viii) and Anto (2004:24) conducted in Ethiopia also reveal that lack of resources is affecting the implementation of inclusive education. More specifically, a study conducted in Botswana by Habulezi (2012:vi) found that both human and material scarcities are affecting visually-impaired learners' academic achievements.

On the other hand, School A principal said that after visually-impaired learners are registered, the school makes class arrangements for the learners. He said that visually-impaired learners are assigned to the first-floor classrooms. Regarding support, the principal reported that, *"We connect the visually-impaired learners with the sighted learners to help them adapt with the school, to help them by reading and other activities. The school organises clubs for those learners such as impaired learners' clubs"*. This is good practice, according Lewis and Doorlag (2011:12), because such supports, provided by peers, are important for the learners to succeed in their studies.

Regarding support, the interviewed participants of School B said that, "*sighted learners support visually-impaired learners by reading. They also go with the visually-impaired learners to their houses and help them to manipulate tape recorders and study with them".* The principal indicated that the school gives them some materials to listen to at home, but the interviewed teacher participants said that, "*visually-impaired learners are not receiving all the necessary supports from the school".* In addition, School B principal said that it was difficult to support low-vision learners compared to blind learners. He reasoned that it was not easy to distinguish low-vision learners from sighted learners. In relation to this, Habulezi (2012:13) states that it is difficult to support visually-impaired learners because their needs differ as their sight problems differ. However, if identified, the principal said that they support them by making them sit at the front of the class. This is similar to what

Mariga, et al. (2014:117) suggested when saying visually-impaired learners should sit at the front closer to the teachers and chalkboards.

To facilitate the visually-impaired learners' learning, School A principal stated that his school has arranged library and computer centres. He indicated that they help visually-impaired learners to efficiently use the computers. In the library, he said that there are books in Braille. These books include History, Geography, Economics, and Civics and Ethical Education. Again, the principal said that some NGOs have promised to the school that they will give them other Braille books. However, the principal confirmed that *"there are no audio-recorded books or other materials but computers have software"*, but Lewis and Doorlag (2011:12) advise that resources such as taped textbooks and computer adaptations should be provided to learners with disabilities like visually-impaired learners in order to succeed in inclusive classrooms. The School A principal further said that his school helps visually-impaired learners by providing soft copy materials. T1 also confirmed that *"The school tries to help visually-impaired by giving Braille papers and arranging computer rooms. However, that it is not enough*. Similarly, T2 complained that *"visually-impaired learners cannot get instructional materials"*. He further said that though there are Plasma TVs which could help, they are not working.

School A principal mentioned that his school prepares tutorial classes for the visually-impaired learners. He said that they design some special questions to give to visually-impaired learners which can help them to prepare for the grade ten (10) and 10+2 matriculation and college/university entrance examinations. T1 also agreed with the principal saying that he prepared questions and helped those learners. He said he even helped the learners on weekends because some of them did not attend during working days, but the problem was that teachers did not receive incentives. They only are orally appreciated by the principal, but he said that he did not expect support from the school for helping the learners. When he was asked whether he receeived any reward or appreciation for his help to the visually-impaired learners, he put his idea as follows, "*Not at all. No appreciation. The appreciation is only internal satisfaction. As a Christian, as a religious person, I help them. They are Ethiopians and me too. So, I have lots of responsibilities to help them."*

Regarding the support provided by the outside community, School A principal said that:

> *…in connection with the different community, for example, one merchant gave two footballs for blind students and also robe for athletics and gave us ten thousand birr worth of Braille papers. And also England, Holland and Spain promised to bring some books in Braille.*

In addition to the educational resources support the community gives to the visually-impaired learners, the principal stated that they give them sport materials for playing football and athletics. They also motivate them.

Regarding budget, the WHO (2011:217) states that countries should allocate enough budgets for the effective implementation of inclusive education. Results in this research, however, show the opposite. School A principal said that, "…*we are affected by budget because we need large amount of money for Braille books*." Again, he indicated that there is shortage of budget especially for visually-impaired learners. He added that his school allocates budget in the same way to other learners. A study by Awetash (2015:77) also shows that financial support to visually-impaired learners in schools of Tigray Region of Ethiopia is not satisfactory. English (2011:301) advises that schools should evaluate and determine whether learners have disabilities or not so as to arrange resources and support for them.

5.3.9 Teacher-Learner Ratio and Class Size

Interview participants were asked to explain the teacher-learner ratio and class size. School A principal responded that "we *have large class sizes which are 1:70 ratios, but according to the policy there has to be a 1:50 ratio between a teacher and learners"*. He explained the reason why his school has large class sizes. He said it was because there is shortage of secondary schools in Mekelle city. School B principal also said that the teacher-learner ratio at his school is 1:53. He added that though there are some classes which have 40 or 45 learners in grade nine (9), in grade ten (10) there are 60-70 learners in a class. This is the opposite of what the MoE (1995:3) has indicated as policy on class size. The policy states that there should not be more than 40 learners in a classroom.

Regarding training on how to handle large class sizes, the teachers said that they were not trained, but the school principal said that teachers are trained on how to teach large classrooms by their respective departments and the Regional Education Bureau. School A teachers also stated that "*there are crowds of learners in the school and classrooms"*. They said that they taught large classes which were difficult to manage. In this regard, Lockwood (1984:68) argues that teachers should be trained on how to teach large class sizes. In doing so, Stofile and Green (2007:55) advise that inclusive education approaches are important to follow to handle such classrooms. The teachers also reported that there was a noise disturbance coming from the learners and it was a challenge for the visually-impaired learners to listen to the teacher in the classroom. Likewise, School B interviewed participants reported that there were many learners in classrooms. They indicated that, "*there are more than 50 learners in a class"*. A similar study by Girma (2007:ix) found that more than 70 learners in a classroom were being taught in Ethiopia. So, according to Stofile and Green (2007:55), due to large class size, teachers do not function well; rather they become managers of the classrooms.

5.3.10 The Effect of Visual Impairment on Learning and Inclusion

When School A principal was asked whether visual impairment itself was a barrier to their support and the learning of the learners, he replied, "*The impairment itself is not a barrier because they work like other normal students and like other normal persons. Then, we don't consider it as a barrier, but we prepare, treat and help especially for that case."* T3 also showed disagreement with the effect of visual impairment on the learning and inclusion of the learners. He argued that, "*for the visually-impaired learners the impairment is not a barrier, but the barriers are the people's negative attitudes and shortage of resources".* The principal's idea contradicts many scholars' ideas such as Bishop (1996:44) and Gray (2005:188) who discuss that the impairment itself has an influence on the learners' learning and development. Similar to the scholars' ideas, interviewed teachers stated that the impairment has an effect on the visually-impaired learners' learning and life. T1 said that:

> *They lost their vision. So they don't see what's going on in the classroom during the teaching and learning process. So they don't observe as the*

sighted learners. … So, as blind learners or low vision learners, those things have some effects on them. … The sighted learners may influence them.

The teacher further elaborated that learners' visual impairment affected their movement. Furthermore, the teacher said that this was one of the effects of their vision loss on their lives. Similarly, T2 indicated that since the visually-impaired learners depended on listening because of their impairment, when other learners disturbed them they could not learn properly. In the same way, School B principal and T4 said that, "*visual impairment is negatively affecting visually-impaired learners' learning and inclusion".* They stated that it was affecting them in all spheres of their lives including socially and economically. T4 mentioned that since visually-impaired learners could not see, they were not able to get information from newspapers and magazines. He also said that visually-impaired learners were not able to go to language centres because they had financial problems. The overall result shows that the impairment itself is affecting visually-impaired learners' learning and inclusion. This is a similar result found by Gray (2008:239-240) who conducted a study in Northern Ireland on visual impairment which revealed that the impairment itself can have a significant effect on visually-impaired learners' social, emotional and physical wellbeing. AS a consequence, their education is also affected due to the impairment.

5.3.11 Teachers' Use of Strategies to include Visually-Impaired Learners

Regarding the strategies, School A principal stated that there is an already set 1:5 network grouping in all the classrooms. He said that the visually-impaired learners were part of the groups. The two teachers also agreed on it. T2 said that, "*…the seating arrangement is in a network group i.e., 1 to 5 network group. Then they are given different exercises to discuss on. After that they report to the class. That's a good situation."* In support of this, Mwakyeja (2013:26) states that since learners' have different abilities and experiences, there should be a good strategy that can be used to help learners' learning. Hence, scholars such as Westwood (2011:40) recommend that teachers should include visually-impaired learners in groups. School B principal and teachers also mentioned that visually-impaired learners sit in front of the class, but what School A teachers complained about was the disturbance of other learners which was caused by the large class size. They also mentioned

that it was difficult to include visually-impaired learners because it was challenging to manage those large size classes.

In addition, the interviewed School B teachers stated that they approached visually-impaired learners in a friendly manner and asked them what they need. They said that they helped them by mechanisms such as answering any questions the learners might have. In addition to giving them affection, T4 said that he used peer learning in his classrooms to include visually-impaired learners. He explained that he grouped the visually-impaired learners with sighted learners and told the sighted learners to help the visually-impaired learners, but he confessed that he did not give feedback to all learners since there were too many. However, Hornby, et al., (2004:234) states that there is an experience of using peer tutoring to include all learners in classrooms. He also added that visually-impaired learners are dominated by sighted learners. Hence, he said that teachers do not consider visually-impaired learners in their classes. As an example, the teacher raised his own experience saying that he wrote notes on chalkboards and forgot visually-impaired learners. To avoid such things, scholars such as Hallahan et al. (2012:37), Michel (2008:60), Downing and Chen (2003:56) recommend that teachers should encourage the usage of peer tutoring, collaborative teaching and consultation, assistive technologies and materials respectively.

5.3.12 Teachers and Learners' Use of Assistive Technologies and Materials

Regarding teachers and learners use of assistive technologies and materials, School A principal stated that his school had computers for both teachers and learners. He added that the computers had software and books uploaded on them, but he did not deny that there were no audio-recorded books in his school. On the other hand, School B principal said that due to the reason that his school had one year's experience in including those learners; he said that, "*the school does not have assistive technologies for both the learners and teachers".* He further elaborated that the learners asked the school if they could use computers and how to use software. In addition, the principal reported that the school gave recorders to learners and allowed them to use Plasma TV recorded materials, but he complained that there were very few computers in the school to be used by teachers and learners.

However, the interviewed teachers from the two schools reported that there were no assistive technologies and materials that teachers and learners could use in the schools. School B interviewed teachers reported that there were no technological products available for visually-impaired learners. The teachers said that blind learners did not have even Braille. T4 said that, "*since blind learners do not have Braille, they are not able to take notes in class. The learners do not have audio-recorders as well".* School A interviewed teachers also said, *"we do not have access to technologies such as computers"*. They said that the computers available in the school were few in number and were insufficient for teachers and learners. Some of the computers were also non-functioning. The plasma TVs available in the school were not working. Visually-impaired learners did not have audio recorded books. Therefore, the teachers reported that there were no technologies available for either teachers and the learners. They complained that most of the visually-impaired did not have Braille materials. Again, interviewed School A teachers complained that there were only four functioning computers which are insufficient for both the teachers and learners. T1 declared that he did not have access to such technologies. Generally speaking, the interview results show that teachers and learners had lack of access and use of assistive technologies and materials though there are some basic provisions, but Downing and Chen (2003:56), and Smith, et al. (2008:326) recommend that teachers and learners should use assistive technologies and materials.

5.4 FOCUS GROUP DISCUSSION RESULTS

Focus group discussion was used as a data gathering instrument. Both visually-impaired and sighted learners participated in the focus group discussions. The sample consisted of 12 visually-impaired and 12 sighted learners broken into separate groups. The data is presented under different themes after the description of the participants. Data gathered from the four groups of the two schools were analysed simultaneously. The description of the focus group participants is given in the tables below. In the tables, the discussants are referred as LVL, BL, and SL which represent low vision learner, blind learner and sighted learner respectively.

Table 5.3 Description of visually-impaired learners from school A and B

Learner	Gender	Age	Grade level
BL1(A)	M	19	9
BL2(A)	M	20	10
BL3(A)	M	18	9
BL4(A)	M	18	9
BL5(A)	M	20	10
BL6(B)	F	16	9
BL7(B)	F	17	9
BL8(B)	F	18	10
BL9(B)	F	18	10
BL10(B)	F	17	9
LVL1(A)	F	18	10
LVL2(B)	M	18	10

*'A' stands for school A and 'B' stands for school B

The above table, which describes the visually-impaired learners from School A and B, shows that one female and one male low-vision learners participated in the focus group discussions (here after referred as FGD) from School A and B respectively. In addition, a total of five male blind learners from School A and other five female blind learners were part of the FGD. The learners' ages range from 16-20. All of the learners were in grade 9 and 10.

Table 5.4 Description of sighted learners from school A and B

Learner	Gender	Age	Grade level
SL(A)	F	18	10
SL(A)	F	18	10
SL(A)	F	16	9
SL(A)	M	18	10
SL(A)	M	17	9
SL(A)	M	16	9
SL(B)	M	16	9
SL(B)	M	17	10

SL(B)	M	15	9
SL(B)	F	18	10
SL(B)	F	16	9
SL(B)	F	17	10

*'A' stands for school A and 'B' stands for school B

Table 5.4 shows that both School A and B sighted learners FGD participants consisted of three male and three female learners from each school. Their ages ranged from 15-18, while six of the learners were in grade 9 and the other 6 were in grade 10.

5.4.1 Appropriate Educational Assessment used by Teachers

The FGD participant learners were asked how their teachers assess and how assessment affects their learning. The discussants reported that teachers did not use appropriate educational assessment that considered visually-impaired learners' conditions. A blind learner said the following during the discussion*, "In test, homework and group work, there might be pictures or maps. Tests which have pictures or maps have effects on our learning assessment.* Agreeing with the learner's idea, the discussants reported that though teachers promised to prepare alternative items for the learners, the teachers forgot to do so. One of the discussants said that, *"…though teachers promise us to give alternative test items, they forget."*

Blind learners also complained that they always need the help of others because assessments were not prepared in Braille or other means. They said those teachers or sighted friends who read for them did not read properly. A blind learner discussant said the following:

> *For final and midterm exams, teachers read for us and we are given enough time but for short tests, sighted learners read for us after they take the test. During this time, noise disturbs us because they talk about the test. Again, we do not get enough time. Teachers also hurry us to finish the test. They consider our classroom participation instead of exercise book checking.*

In relation to this, Loreman, et al. (2005:16) state that although all learners with different abilities and disabilities learn in inclusive schools in the same curriculum;

assessments must be done. The other challenge the discussants mentioned was that enough time is not allocated for short tests. This is inappropriate, according to the MoE (2012:45) which says that equal time should be allocated for all learners. In addition, the discussants reported that there are times when assessments had maps or pictures. Salvia and Ysseldyke (2004:163) emphasise that such assessments are unfair because they are not prepared in a way that the learners can understand them, but the discussants said that though teachers tell visually-impaired learners to skip such items and promise to design alternative items for them, they often forget to give them other compensating items. As a result, such teachers and item types are affecting their learning and achievements.

School B FGD participant visually-impaired learners in particular also complained about the quality of assessments. They said that teachers design close-ended questions. A learner said:

> *Most of our teachers assess us by giving tests. The quality of assessment is very low. The assessment methods they use cannot assess our knowledge and skills. They give us simple questions. We are not able to philosophise. Most of the test items are multiple choice and true/false. There is no question which demands explanation or discussion. This type of assessment lowers the capability of the learners. They decrease learner's ability to elaborate and discuss things.*

The learners reported that these types of questions do not challenge them and they are not able to discuss them in a broad way. As a result, the discussants stated that these types of assessments were affecting their learning. They said that the assessments lowered their ability to discuss and elaborate on issues. This means that according to McCormick and Pressley (1997:373), the teachers are following traditional assessments which are close-ended items. Again, the discussants indicated that teachers only saw learners' results not the types of assessments they designed and the question types as the problem. The discussants reported that the visually-impaired learners' success in learning and assessments is due to their own efforts not because of the teachers' commitments, but some learners may not complete high schools (secondary schools in this context) because of the assessments used by teacher (Loreman, et al., 2005:16).

5.4.2 Attitudes towards Inclusive Education and Visually-Impaired Learners

The discussants were asked whether they had positive or negative attitude to one another. The sighted learners' focus group discussants described that they had positive attitudes to visually-impaired learners. A sighted learner discussant reported that, "*the interaction between us and the visually-impaired learners is very good. Visually-impaired learners ask sighted learners to read for them and the sighted are very cooperative. So, we have good interaction."* The sighted discussants said that the interaction among them was good and they were cooperating in their learning. The sighted learners also stated that they were benefiting due to the presence of visually-impaired learners in their classrooms. A School A, sighted, FGD participant learner elaborated that, "*We are beneficiaries due to their presence because they are beyond us though they have disabilities. So, we respect them and cooperate with them. They are models for us.*" The learners also explained that visually-impaired learners asked questions of the teachers. When the teachers responded to the questions raised by visually-impaired learners, the sighted learners benefitted from it. In addition, the sighted learners stated that visually-impaired learners' presence in their classrooms gave psychological strength. A sighted learner discussant said that, "*When we see visually-impaired learners learning with sighted learners we understand how much they have psychological strength and we try to do better.*" School B, sighted, FGD participants also said that visually-impaired learners were models for them and have them morals, but a different response by a discussant on the attitude of visually-impaired learners towards sighted learners was the following:

> *It depends. If we help them, they have good attitude and if we don't support them they may not have good attitude towards us and teachers, but what's on the ground in general is that they have positive attitude. They have good attitude since we help them.*

On the other hand, School B visually-impaired learners reported that though they cooperated with sighted learners on certain things and have good interaction, sighted learners who came from rural areas did not have a positive attitude towards visually-impaired learners at first. A blind learner reported that, "*The learners who come from rural areas used to consider us as if we cannot learn.*" Another learner from the same school also put the attitude of sighted learners as follows:

When we first came to this school there were many learners who did not think that we can learn. There were even some who have never seen visually-impaired person. They were considering us as if we cannot learn like them, but later after they saw our results their attitude was changed. When they read for us and discuss with them equally their attitude towards us is changed. In general, the attitude is changing. Previously they were afraid of even we can fall from the buildings. This has changed now.

School A, visually-impaired, FGD participant learners also said that sighted learners did not have positive attitudes towards them. They said that sighted learners did not help them because they might not have good attitudes to visually-impaired learners. Again, a low-vision discussant learner from School B stated that sighted learners did not have good attitudes to her. She added that the learners bullied her by and called her names. In relation to this, Landsberg (2005:336) and Human (2010:54) discuss that low vision learners face social relation problems because their impairments are not easily noticed. Likewise, a study by Knouwds (2010:111) shows that visually-impaired learners tend to be stereotyped.

A study by Tibebu (1995:93) found that teachers do not have positive attitudes towards including learners with disabilities. Similarly, School A, sighted learners discussed that teachers did not have positive attitudes towards low vision learners. The reason for that, as the learners mentioned, is that there was a low-vision learner who asked the teachers difficult questions. The teachers did not give appropriate answers to his questions and the learner became angry and felt bad. A sighted discussant from School B said:

What makes the low vision learner different from others is that he asks teachers many questions, but since he used to ask them difficult questions, teachers did not have good feelings on him. Teachers' responses to his questions were not good. However, he is a clever student.

The learner continued saying:

He became angry and had bad feelings because of the teachers' responses. There were times when teachers answer sighted learners' questions but not his questions. Then he was unhappy but we tried to answer his questions from what we read.

Nevertheless, the discussant reported that the low-vision learner had good interaction with the other learners. The above result indicates that the teachers themselves and sighted learners have negative attitudes towards low-vision learners but teachers and sighted learners' attitudes towards blind learners were changing. In relation to the attitude of the school communities, a study by Gray (2005:188-189) shows that there is still discrimination against learners with visual impairment at schools.

On the other side, discussants from both schools said that the outside school communities have bad attitudes towards visually-impaired learners. Discussants from School A described that when the community members show them direction, it is only because they feel sorry for the learners' impairment and to get blessings from God by doing so. The outside school community gives them directions and helps them with certain things not because it has a good attitude towards them but "*It is because they [communities] feel sorry for our impairment*." A learner from the focus group participants added that, "*Their attitude is not because they feel that they have the responsibility to help us but they help us feeling sorry or to get blessings from God by doing good things for us."* Another learner shared her experience saying, *"When I came to Mekelle last year (2014) with my sister, neighbours asked her 'Who helps your sister do her hair?' They also used to ask her 'Who feeds her? Then my sister tells me…The view is not good."* In support of this, Enerstvedt (1996:4) and MoE (2012:43) declare that in some countries, visual impairment is still considered as a sin and punishment by God. This signifies that there are communities who have negative attitudes towards visually-impaired persons, but in this study, FGD visually-impaired participant learners reported that they do not have bad attitudes twoards the communities because they understood that the community already had backward attitudes. As a solution to the attitudinal problems of the community, the learners said that much should be done to change the attitudinal problems of the community. As a step forward, the learners reported that they were teaching the communities bit by bit. Bishop and Rehind (2011:178) also recommend that training should be given to the staff, including teachers, who have negative attitudes towards the learners.

5.4.3 The School Environment and its Accessibility

UNESCO (2009b:9) points out that if classroom and school environments are not inclusive; they create barriers to the inclusion of learners. Hence, Lewis and Doorlag (2011:150) recommend that special attention should be given to learners with sensory impairments such as visually-impaired learners' learning environments. The focus group discussants were asked to respond to how they saw the school environment and its accessibility for the inclusion of visually-impaired learners. A visually-impaired learner from School B said:

> *First of all, the school was not built for us or to include us. The experience of the school in relation to teaching visually-impaired learners is not that much. It has started accepting us since 2006 E.C. We also knew that the school was not constructed to include us. Facilities were not provided or built considering our impairment, but we hope that things will be adjusted through time.*

The remaining FGD participants also agreed with the above idea that the schools were not built to include visually-impaired learners. They were built for sighted learners. They added that the inside and outside environments of the schools and their accessibility were not good. A visually-impaired discussant said that, "*The school environment has many challenges.*" School A focus group participants complained that the gate of the school was far from the main road. A sighted learner discussant from School B said:

> *When we see the comfort of the school it is disturbing. For example, when we are learning in the classroom, there is disturbing noise. This is due to the architecture of the classroom. The classrooms face the main roads. So when big trucks pass by, there is noise disturbance. Even a little noise directly echoes to our classroom.*

In relation to the above data, a study by Demetros (2007:viii) reveals that environmental problems are the main challenges for the practice of inclusive education in schools.

Both schools' FGD participants explained that facilities such as toilets, water, playgrounds, light, laboratory rooms and ICT rooms were not accessible and were of poor quality. They said that toilets were unclean and were often out of order.

Regarding laboratory rooms, School A learners stated that while they were expected to do four or five things in the laboratory rooms, they only did two things. School B participants also noted that classrooms did not have lights. The sighted learners reported that when the classrooms did not have lights, they were not able to read from the chalkboard. A learner replied that, *"…we are facing difficulties when the classroom is dark."* In addition, they reported that some classrooms' doors were broken. Consequently, the participants said that sunlight reflected on the chalkboards and they could not read from them. They added that classrooms were not kept clean and tidy. A sighted discussant from School B also pointed out that, "*Most of the classroom windows are closed. So there is suffocation inside the classroom. We are not able to breathe. Even teachers are not able to breathe. There is no air inside. So, when we are inside the classroom for six periods, it is very difficult.*" Discussants from both schools further explained that there was a water shortage. A sighted learner discussant from School B said that "*There are many environmental barriers. There is a big problem in relation to water and toilet. There is only one water tap in our school compound. It is unclean and learners do not use it properly. The school staff also close it sometimes and open it other times.*" The discussants also said that toilets do not have water. School B discussants also said that there was only one water tap in the school compound and many learners stood in line to drink from it during break time. They stated that some learners left the queue because they stood for a long line. Kaplan (2007:18) points out that lack of such facilities can affect learners' learning.

Regarding the library, the sighted learners said that the library was good and had enough books but learners did not have the interest in reading. By contrast, visually-impaired learners said that there are not enough materials available in the library for them. In general, all the discussants agreed that the schools did not have inclusive environments and were not accessible. A good summary of the discussants' ideas was given by a learner from School A: "*This school is not built to include us after all. The school has nothing for us. We are here just because we have to learn.*" So, results show that the learners especially the visually-impaired learners had the same feeling about their school environments and their accessibility.

5.4.4 Availability of Resources and Support

The focus group discussants were asked if they thought there was availability of resources and support in their schools. Sighted learners from both schools appreciated the availability of resources such as books in the libraries. However, they complained that laboratory and ICT rooms were not well-resourced. A sighted learner discussant said that "*We rarely do laboratory work. When we are expected to do 4 or 5 things, we only do 2 things. The ICT room is not also good, but other things are fine.*" Another learner also stated, "*There are no additional materials such as recorders, TV and computers.*" Likewise, visually-impaired and sighted learners declared that the schools did not have enough resources for visually-impaired learners. A learner commented, "*There are not enough books in Braille. There is shortage of computers which have JAWS software.*" School A participant learners said that though there were some books in Braille in the school library, they were not allowed to take them home. A learner stated, "*There are blind learners who do not read Braille books. When we ask the librarians to give us Braille books to take them outside the library so that our friends who read Braille could read for us … they do not allow us. So we are not getting special attention.*" Similarly, another learner said, "*There are very few books in Braille such as Civics and History but we are not allowed to take them home. We read them in the library when we have free time during the subjects we do not learn such as Chemistry and Physics. So we cannot read them at home.*" This shows that there are blind learners who do not read Braille books and there is shortage of resources. When they ask the librarians to allow them to take the books home so that others can read for them, the librarians do not permit the learners to borrow the books from the libraries. This coincides with research by Awetash (2015:77) which found that school libraries do not give adequate service to visually-impaired learners and librarians are not cooperative with the learners. Again, a study by Knouwds (2010:111) shows that there are few resources available for visually-impaired learners in school libraries. Habulezi (2012:vi) also confirmed that lack of resources is affecting visually-impaired learners' academic achievement. Michel (2008:28) stresses that when little emphasis is given to support services, this is a barrier to the implementation of inclusive education.

In relation to support, a blind learner from School A described the support from the school like this: "*There is no special support provided for us. For example, teachers*

do not support us in a special way while they teach in classes…" School A, visually-impaired, FGD participants agreed on the point that they were not receiving enough support from the school, fellow sighted learners and teachers. The participants said that they needed their school to provide them walking cane which the learners cannot afford by themselves. School B, visually-impaired, FGD participants stated that the material supplied by their school was minimal. They added that there was no-one in the school who could familiarise them with the school and its environment. A learner from the school said,

> *…there are no professionals who graduated in special needs education. For this reason, we are not getting any kind of help in familiarising with the school environment. We even meet with teachers only in classrooms. There are no specialists in our school who help us. So there is no special orientation and information given to us."*

In relation to orientation, a study by Knouwds (2010:111) shows that orientation and mobility training were not given to visually-impaired learners. Similarly, Awetash (2015:77) who conducted research in the same region as the current research found that orientation and counselling services to visually-impaired learners were neglected at schools. However, English (2011:302) recommends that specialists should help visually-impaired learners to become familiar with the school environment.

In addition, the discussants said that there were no professionals in the school who could help visually-impaired learners except those teachers who gave lecture notes to low-vision learners, prepared recorded materials and uploaded them to the school computers, but they appreciated sighted learners support to them by reading from books, chalkboards, and telling them what was happening in the classroom while lessons carried on. A blind learner said, "*We only get support from fellow learners.*" The discussants further said that some sighted learners went to visually-impaired learners and help them by reading and discussing tasks, and School B discussants indicated that there were some teachers who prepared recorded materials for visually-impaired learners. At the end, the discussants recommended that the schools should at least provide Braille writers and Braille books to visually-impaired learners. In particular, School B FGD participants suggested that if the school could not provide resources and support to visually-impaired learners, sighted learners may not always help them and they could be in danger. Stubbs (2008:73) also

stressed that lack of both resources and support were the primary barriers to inclusion. Similarly, a study by Assefa (2008:vii) reveals that lack of resources are affecting the implementation of inclusive education.

5.4.5 The effect of visual impairment on learning and inclusion

Visually-impaired learners were asked whether their impairment affected their learning. The learners responded that their impairment affected their lives, learning and inclusion. This is similar to what Landsberg (2005:334-336) and Human (2010:53) state, namely that visual impairment affect not only learners' learning but also it affects their physical and motor, perceptual development, language and cognitive development, and social and emotional development. In explaining how the impairment affects their learning, a low-vision learner from School B stated that she was dependent on her eyeglasses which had lenses. She said that "…*my vision loss does affect my learning because I am dependent on the eyeglass.*" She explained that she could not read and write without them. She said that her use of eyeglasses was a problem with other learners because they thought that she was different. The other discussants from School A also mentioned that the unavailability of resources such as Braille books and audio-recorded materials, no support from and negative attitudes of the community affected their lives in general and their learning in particular. The learner said that "*It's true that vision loss affects learning. This means that, for example, since we do not read and write, we need sighted peers help, but had we gotten Braille written books and computers, its effect could be minimised."* However, visually-impaired learners reported that despite those restrictions, they were able to score good marks. For example, School B learners said that in the academic year of 2014, a blind learner scored the highest mark from the school.

5.4.6 Teachers' Use of Strategies to include Visually-Impaired Learners

Mariga, et al. (2014:117) state that teachers should organise the classroom in a way that all learners are treated equally. They further state that teachers should organise learners in groups so that the learners can share experiences. The FGD participants were asked if their teachers used any strategies to include visually-impaired learners. The discussants replied that teachers told visually-impaired learners to discuss the work in groups with other learners. However, the learners complained that the groups were grouped in ways which were not functional. Instead, the

learners stated that visually-impaired learners looked for clever learners who could discuss work with them outside the classrooms. A learner said:

> *Teachers do not help us in a special way but we sometimes discuss with others in groups. There is a 1 to 5 networking among learners but it is not functional. Teachers do not tell us to be in groups and help each other or discuss in groups, but we find clever learners by ourselves and discuss with them outside the classroom.*

Another learner also reported that *"They don't let us work with others in groups. Unless we join groups when they instruct the class to work in groups, teachers do not help us."* In addition, School B discussants said that even when teachers allow group discussions, they still focus on sighted learners' participation in the groups. The learners also reported that some teachers allowed visually-impaired learners to sit at the front in the classrooms. This is a good seating arrangement for the learners according to Smith, et al. (2008:325) and English (2011:305), but generally speaking, the learners reported that teachers do not use strategies such as peer learning, collaborative teaching, and cooperative learning in the classrooms. A sighted learner during the discussion stated that "*It is also not common for a learner to teach other peer learners. There is no collaborative learning but it rarely happens, but it is possible to say that there is no collaborative learning.*" In relation to teachers' use of teaching strategies, a study by Demetros (2007: viii) shows that teachers have faced challenges in using different teaching strategies in inclusive classrooms due to lack of training, large class sizes, heavy teaching loads, and lack of space, but Downing and Chen (2003:56) suggest that teachers should use such alternative teaching strategies to meet the learners' needs. The learners added that teachers gave attention to the majority of the learners in the classrooms that were sighted learners. A sighted learner said that "*Unless we help the visually-impaired learners, teachers do not let them participate in group discussions.*" They added that teachers even forgot the presence of visually-impaired learners in the classrooms. For instance, School B discussants reported that teachers write notes on the chalkboards which visually-impaired learners could not read. To the contrary, a low-vision learner from School B reported that there were some teachers who wrote in big letters on the chalkboards to help low-vision learners, but generally speaking, the participants reported that it was better when they were at primary schools than

secondary schools. They said that secondary school teachers did not explain things clearly and did not consider the learners' impairments when giving assignments for homework.

5.4.7 Teachers and Learners Use of Technologies and Materials

Lewis and Doorlag (2011:306) state that assistive technologies such as computers, phones, television, and audio-recorders help to fulfil the educational needs of learners. Regarding teachers and learners' use of technologies and materials, the discussants reported that since there were few technologies and materials in the schools, their use of them was limited. A sighted learner from School B said that "*There are around 15 computers and we are 58.*" Another learner also said, "*There are very few computers in our school. Four or five learners use one computer at the same time.*" The discussants explained that there were few computers in the schools and some of them were not working. They added that those computers which were working were insufficient for the whole school population. The learners also stated that their teachers did not use technological products to teach them. In relation to teachers' use of technologies, a learner said that, "*They (teachers) don't use any king of technologies.*" School A, visually-impaired learners also complained that visually-impaired learners wanted to record teachers' voices in the classrooms but the teachers did not permit them to do so. Again, the learners said that the computers also did not have software such JAVA. In addition to the limited number of computers, the learners stated that there were no available assistive technologies such as recorders and TV. As a result, the learners stated that,"*Since there is lack of technological access, we are not able to listen to audio recorded materials.*" This meant that learners had limited experience of use and access to technologies. As a result, their learning and inclusion had been affected.

School A, visually-impaired learners stated that though they visited an NGO called Operation Risk in the city which had a library and computers loaded with learning materials, they were not able to visit it often but they sometimes went and used the library and computers. The reason why they did not visit the library was that the organisation was far from their schools and residential areas (in a neighbourhood called Kebele (district) 18 which is located in the south edge of the city) and they could not afford to pay for taxi fares.

5.5 OBSERVATION RESULTS

Observation was one of the instruments used to gather data from the schools. The observation focused on two main things: the school environment and classroom environment. The school environment observation included location of the school, the school ground, availability of facilities in the school, nature of staff and learners' relationships in the school, and the overall situation of the school for the inclusion of visually-impaired learners. The second focus of the observation which was the classroom environment included observing size of the classroom, class size, availability of classroom facilities, sanitation and appearance of walls, floor, and furniture, appropriateness of furniture for visually-impaired learners, availability of assistive technologies and materials and their condition, teachers' activities, learners' activities, seating arrangement, adaptations made by the teacher to cater for visually-impaired learners, teaching methods and strategy used by the teachers and their appropriateness, and teachers' giving activities and their appropriateness. Four grade 9 and 10 teachers were observed while teaching. Observation was done with full permission of the teachers.

5.5.1 School Environment

To start from the location of the schools, while School A is located North-West of Mekellle city, School B is located in the South-West. Both the schools are found in the middle of residential areas. The schools are also surrounded by roads. School A is surrounded by three roads and School B is surrounded by four roads. One busy main road passes by the gate of School B. In addition, to the west of School B, there is a big public market place. According to Mutisya (2010:34) citing UNESCO (2004 and 2001), such school environments have an impact on the learners' learning and inclusion.

School A has three four-storey buildings and one villa-like building. The school is well fenced and has one gate. The four-storey buildings which are found to the North, South and East side of the school terrain have classrooms. The villa-like building has school administration offices. On the other hand, School B has two four-storey buildings. One of the buildings which is found at the East side of the school has only classrooms whereas the other building which faces a road and residential houses has classrooms, a library, a laboratory and offices. The school is well-fenced

and has one gate. Since the main concern of environment is the protection of its residents (in this case learners) (Lewis & Doorlag, 2011:150), the fences of the schools are good but the position of the buildings in School B which face a road and residential houses is not good. In addition, while school A has a very narrow and overcrowded school ground, School B has a better school ground. Both the schools have sport fields. In comparison, School B's ground is more dusty than School A's. Again, while School A has more large trees and short bushes, smaller trees in School B's grounds are fenced with barbed wire. Behind and in front of the two schools, there are spiny trees, while discarded, broken chairs, bricks, rocks, and dumps of sand were seen in School B.

According to the researcher's observation, there were few inaccessible and low-quality facilities such as unclean toilets with no water, three water taps in School A and one in School B which rarely flowed. In relation to this, Sophal and Fox (2011:165) state that accessibility to facilities such as toilets, school buildings, water supplies and blackboards should not be discriminatory.

The two schools also had small libraries which had few reference books. The chairs in the libraries did not have people were sitting in them because they were covered in dust. The library in School A had Braille textbooks such as Geography, History, Civics and Ethical Education, and Economics. In addition, the observed schools had computers but they were few in number and did not have software for the visually-impaired learners. Some of the computers were not also functional.

Regarding the nature of staff and learners' relationship, it was observed as a fair relationship. Teachers and learners including visually-impaired learners were observed discussing on questions raised by learners. Learners had respect in approaching their teachers. School B's principal had a very smart way of approaching visually-impaired learners. The learners were observed having fun with the principal. However, visually-impaired learners, especially blind learners, were observed sitting alone in the corridors of the buildings. There was also little communication among teachers and learners outside the classrooms in the schools. The only teacher that was observed approaching and coordinating visually-impaired learners in School A was a Biology teacher who has a physical disability. Other than her, there were no specialists or experts who could help the learners in the schools.

The overall situation of the observed schools was not suitable for the inclusion of visually-impaired learners. A study by Anto (2004:24) also reveals that school environments are often unsuitable for visually-impaired learners.

5.5.2 Classroom environment

The classrooms in the schools were found on every floor of the buildings up to fourth floor. The classrooms had fair sizes which were built to hold 50 or less learners but the number of learners in the classes exceeded that. Two observed classes in School A had 75 and 74 learners each whereas there were 59 and 55 learners in School B classes. Therefore, classrooms observed were crowded with up to four learners sitting at the same desk with not enough space for movement. Demetros (2007:15) states that such seating positions can affect visually-impaired learners' learning. Martin (2005:99) also posits that crowded classrooms affect learning because when there is large class size, there will not be enough space for the learners to be involved in different group activities.

The only functioning facilities observed in the classrooms were desks and chalkboards, but even some of the desks were broken and many of them had unnecessary writing on them. Assefa (2008:15) discusses that the classrooms should be secure and safe for the physical and mental wellbeing of the learners. Desks did not have enough space to put learners' belongings such as bags. Martin (2005:93) states that the furniture of a classroom can affect the implementation of educational goals. Accordingly, Smith, et al. (2008:325) and English (2011:305) suggest that tables should have enough space for the learners to put their things on. There were also electricity and Plasma TVs in the classrooms. However, teachers and learners were not seen using them in their classes. The classrooms did not have electrical sockets where electronic equipment could be plugged in. Assefa (2008:15) states that classrooms should have sockets to facilitate learners' learning.

The sanitation and appearance of walls, floor, and furniture of the observed classrooms were poor. Floors were littered with paper and were dusty. Walls had writing on them, most probably written by learners. They had taboo and insulting words and phrases written in white and coloured chalks. Classrooms were stuffy and had a bad smell. In general, the classrooms were not attractive and they did not motivate teachers to teach and learners to learn in them.

During the teaching and learning process, teachers were observed giving lesson notes, facilitating learning, and clarifying concepts. They were also observed trying to give group work activities, but the problem seen was that the group discussions did not go well because of the seating arrangements of the learners and the large number of learners. There were more than 1 to 5 networking group members in a group and that made it difficult for the group discussions to function. Teachers and learners were not seen moving around the classrooms due to lack of space in the classrooms. Besides, the observed teachers were not seen using peer tutoring, collaborative teaching or cooperative learning strategies to include the visually-impaired learners in their classrooms. Teachers were also seen focusing on the sighted learners rather than the visually-impaired learners. They were not observed instructing or directing visually-impaired learners to discuss in groups. On the other hand, learners were observed listening while teachers talked and some discussed the work in group activities. The sighted learners took notes from the chalkboards, but blind learners were sitting idle and alone as if they were not part of the lesson. It is better for the teachers to encourage learners to participate in groupings such as cooperative learning to help learners. According to Serna and Patton (1997:162), cooperative learning can help learners to help each other. To avoid the visually-impaired learners being alone and dominated by the sighted majority, Michel (2008:45) recommends that teachers should use grouping mechanisms such as cooperative learning. As observed, the seating arrangements were based on an already set 1 to 5 network grouping by the schools. Many learners sat facing the walls rather than the teachers. The grouping was not functional because learners were not seen discussing work in their groups and visually-impaired learners were not part of the groups. Again, there were more than six learners in one group which is beyond the standard grouping arrangements. In addition, the classrooms were noisy. Teachers and learners were not able to hear one another. Learners were answering questions raised by the teachers but visually-impaired learners were quiet. When the sighted learners were reading from their text books, blind learners were idle, especially during the group discussion activities, although they were seen sitting in the front of the classrooms.

Regarding the availability of assistive technologies, no assistive technology or material for the learners and teachers was observed in the classrooms. There were

Plasma TVs standing in front of the class but they were not working. Blind learners were not also observed using Braille. In addition, the researcher did not observe any kind of adaptation made by teachers for the visually-impaired learners in School B. A study by Knouwds (2010:112) also shows that teachers do not adapt their teaching methodologies to include visually-impaired learners. The teaching methodology mostly used in the classrooms as observed was question and answer after notes were written on the chalkboards. The teachers also tried to use group discussion as a teaching method, but the group discussion activities and the grouping were not seen appropriate because teachers did not manage them well. Activities were not inclusive because visually-impaired learners were sitting idle. However, in the question and answer time which was part of the assessment used by teachers, some visually-impaired learners were observed to participate in School B. One of the teachers observed in School A spoke loudly when walking closer to the visually-impaired learners but his class was already noisy. Other than the above-mentioned strategies, teachers were not seen adapting things to fulfil the educational needs of visually-impaired learners.

In terms of the interaction between the teachers and learners, it was observed that the teachers commanded learners to do things. Then learners obeyed these instructions, but there were behavioural problems seen from the learners' side. They were not listening to the teachers and teachers were observed saying "Keep quiet" repeatedly.

The teaching methods and strategies used by teachers were giving notes, exercises, asking oral questions and group activities. Teachers were also observed giving activities from text books. The activities were given without making any modifications for the visually-impaired learners. In School A, the visually-impaired learners did not do anything because they did not have Braille books or Braille writers. Some of the visually-impaired learners were seen asking their sighted peers what they had to do. A grade 9 English teacher from School A gave an activity to his learners which had pictures of reptiles and animals. It was difficult for the sighted learners to explain what those pictures looked like to the visually-impaired learners. The notes written on the chalkboards were only for sighted learners, but the oral question and answer was better because visually-impaired learners were at least listening. However, teachers were not observed arranging or applying peer learning, cooperative learning or collaborative teaching, and group activities were not engaging. Thus,

what was observed was that teachers did not consider the impairments of the visually-impaired learners in order to include them in their lessons.

The teachers' mode of assessment was asking oral questions. The instructions were also clear. The interaction between the teachers and learners and vice versa was academic. They were not observed communicating outside the classrooms. A teacher from School A was observed touching blind learners with his pen and asking them their numbers for attendance. Visually-impaired learners were observed rarely asking their sighted classmates questions. Some sighted learners were also reading activities from text books for the visually-impaired learners, but most of the time visually-impaired learners sat alone and had no chance to discuss with other learners even outside the classrooms. Visually-impaired learners usually preferred to sit together at the back of the buildings during break time.

The overall classrooms atmosphere, therefore, was not inclusive. Teachers' teaching methods were not inclusive. The classrooms lacked many things such as space for movement, electrical sockets, assistive technologies and materials. Teachers did not adapt and modify instructions for the visually-impaired learners. The blind learners did not even have Braille.

5.6 QUESTIONNAIRE RESULTS

A questionnaire was used as a data collection instrument from which the data were used to supplement the data gathered by the other main instruments. The questionnaire had two types of items: open ended and closed ended items, which mean both qualitative and quantitative data, were gathered through the questionnaire. The questionnaires were filled in by teachers who had visually-impaired learners in their general classrooms. The questionnaires were distributed to 40 teachers. Only 31 teachers returned the completed questionnaire from the two schools. Out of the 31 teachers who completed and returned questionnaire, 14 teachers were from School A and 17 teachers were from School B as indicated in Table 5.5 below. The teachers referred as T1-T14 are from the first school whereas the other teachers referred as T15-T31 are from the second school. In the analysis of the quantitative data gathered from the questionnaire, percentages were used while qualitative data were analysed in words.

Table 5.5 Description of teachers who filled in questionnaire

Teacher	Gender	Age	Qualification	Specialisation	Grade level he/she teaches	Workload per week	Learners' type of visual impairment in his/her classroom	Average number of learners in class
T1	M	48	BA	English	9	18	Blind	73
T2	M	45	BA	English	9	18	Blind	70
T3	M	38	BA	English	9 & 10	20	Both	73
T4	F	43	BA	Amharic	10	16	Blind	70
T5	M	30	BA	Civics and Ethical Education	10	21	Blind	60
T6	F	25	BA	Civics and Ethical Education	9 & 10	21	Blind	68
T7	M	46	BSC	Biology	10	12	Both	60
T8	F	36	BSC	Biology	9	21	Blind	65
T9	F	50	BA	Geography	10	20	Blind	70
T10	F	42	BSC	Biology	9	21	Both	68
T11	M	36	BA	English	10	12	Blind	70
T12	F	36	BA	History	9 & 10	21	Both	72
T13	M	45	BA	Geography	9 & 10	21	Both	53
T14	M	48	BSC	Biology	9	20	Blind	60
T15	M	28	BEd	History	9	20	Blind	38
T16	M	60	BSC	Biology	10	15	Blind	60
T17	M	35	BA	English	10	24	Both	56
T18	M	34	BA	Amharic	10	24	Both	58
T19	M	40	BA	Geography	10	16	Blind	55
T20	M	44	BA	History	9	24	Blind	53
T21	M	54	BEd	English	10	20	Blind	57
T22	M	34	BA	English	10	24	Blind	60
T23	F	24	BA	Civics and Ethical Education	9	21	Blind	45
T24	M	21	BA	Biology	10	21	Blind	58
T25	M	32	MA	Geography	10	12	Blind	58
T26	M		BSC	Biology	10	18	Blind	55

Teacher	Gender	Age	Qualification	Specialisation	Grade level he/she teaches	Workload per week	Learners' type of visual impairment in his/her classroom	Average number of learners in class
T27	M	30	BA	Geography	9 & 10	14	Blind	50
T28	M	54	BA	English	9 & 10	24	Blind	39
T29	F	48	BA	Civics and Ethical Education	10	18	Blind	58
T30	M	34	BSC	Biology	10	3	Blind	57
T31	M	50	BA	Geography	9	16	Blind	60

According to Table 5.5, a total of 31 teachers participated in the questionnaire. Out of those teachers, only 2 were females while the rest of them (29) were males. Only one teacher had second degree in Geography, while the remaining 30 teachers had first degrees in History, Biology, English, Amharic, Geography, and Civics and Ethical Education. While nine teachers taught grade 9 learners, 15 teachers taught grade 10 learners. The remaining seven teachers taught both grade 9 and 10. With an exceptional teacher who had three hours per week work load in School B, the remaining teachers' workloads per week ranged from 12-24 hours. Five teachers taught both blind and low-vision learners but the remaining 26 teachers taught blind learners in their general classrooms. In School B three (3) teachers had average class sizes of 38, 39 and 45 but most of the teachers had average number of learners in their classrooms which range from 50-60. However, in School B, except for one teacher who had 53 learners in his classroom, 13 teachers had 60-73 learners in their classrooms.

5.6.1 Teachers' Attitudes towards Inclusive Education and Visually-Impaired Learners

To explore the attitudes of teachers towards inclusive education and visually-impaired learners, Likert scale questions followed by open-ended questions were designed. In other words, teachers were asked to respond to questions where they had to rate their agreement or disagreement with given statements. The teachers' responses and the data analysis are presented below.

Table 5.6 Teachers' responses on their attitudes towards inclusive education and visually-impaired learners

SA= Strongly Agree, **A**=Agree, **UD**=Undecided, **SD**, Strongly Disagree, **D**=Disagree

	Items	**SA**		**A**		**UD**		**SD**		**D**	
		Responses									
		#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
1	Learners with visual impairment have the right to learn with their sighted peers.	19	61.3%	10	32.3%	0	0.0	0	0.0	1	3.2%
2	The following learners with different types of visual impairment can be taught in an inclusive classroom 10.1. Blind 10.2 Low vision	7	22.6%	14	45.2%	4	13%	2	6.5%	3	9.7%
3	Teaching visually-impaired learners in inclusive classes does not waste my time.	7	22.6%	11	35.5%	4	13%	4	13%	5	16.1%
4	Teaching visually-impaired learners together with their sighted peers in regular classroom does not give me comfort.	2	6.5%	9	29%	2	6.5%	6	19.4%	11	35.5%
5	Educating visually-impaired learners in regular classrooms does not make any change to their learning.	7	22.6%	9	29%	2	6.5%	6	19.4%	11	35.5%
6	Educating visually-impaired learners in regular classroom enables them to develop social life, feeling of independence and self-confidence.	18	58%	9	29%	1	3.2%	1	3.2%	1	3.2%
7	Teachers are comfortable with visually-impaired learners in their classrooms.	10	32.3%	14	45.2%	2	6.5%	1	3.2%	4	13%
8	I firmly suggest that visually-impaired learners should not be educated in separate special classes.	9	29%	7	22.6%	6	19.4%	6	19.4%	2	6.5%

N.B. # = responses in number % = responses in percentage

According to Table 5.6, the majority (61.3%) of the teachers strongly agreed that visually-impaired learners had the right to learn with their sighted peers followed by 32.3% teachers who agreed on the same statement. Again, 45.2% teachers agreed and 22.6% strongly agreed that both blind and low vision learners can learn in inclusive classrooms. In addition, 22.6% and 35.5% respectively strongly agreed and agreed that teaching visually-impaired learners in inclusive classes did not waste their time. This is contrary to a research finding by Tibebu (1995:93) that teachers have negative attitudes towards including learners with disabilities such as visually-impaired learners.

On the other hand, the table shows that teachers' comfort regarding teaching visually-impaired learners in their classrooms was varied. While 35.5% teachers disagreed and 19.4% strongly disagreed that teaching visually-impaired learners with their sighted peers did not give them comfort, 29% teachers agreed with the statement. Some 35.5% teachers also disagreed with the statement "Educating visually-impaired learners in regular classrooms does not make any change to their learning." However, 22.6% teachers strongly disagreed with the statement and the remaining teachers had varied views.

Among the teachers who responded whether they believed that educating visually-impaired learners in regular classroom enabled them to develop social life, feeling of independence and self-confidence, the majority (58%) of the teachers strongly agreed and 29% teachers agreed. Likewise, regarding teachers' comfort with the presence of visually-impaired learners in their classrooms, 45.2% and 32.3% teachers agreed and strongly agreed respectively. Again, teachers were asked whether visually-impaired learners should not be educated in separate classes. In a response to this, while 29% of them strongly agreed, 22.6% agreed that they should not be educated in separate classes, other 19.4% strongly disagreed and 6.5% disagreed that the learners should not be educated in separate classes and 19.4% teachers were undecided. This shows that teachers have positive attitudes towards inclusive education and visually-impaired learners. This again means that the attitude of teachers has improved in Ethiopia because previous studies by researchers such as Tibebu (1995:93) and Asrat (2013:61) found that teachers had negative attitudes towards learners with disabilities.

5.6.2 Availability of Resources and Support

To investigate the availability of resources and support for teachers and learners, both open ended and closed ended questions were prepared. The teachers' response to the questions and the analysis are presented below under different tables.

Table 5.7 Teachers' responses towards the availability of facilities in their schools to implement inclusive education

Item	Alternatives	Responses	
		#	%
1.	Very high	1	3.2%
	High	3	9.7%
	Average	16	51.6%
	Very low	7	22.6%
	Low	4	13%

N.B. # = responses in number % = responses in percentage

Tirussew (2005:120) points out that the implementation of inclusive education in Ethiopia is affected by factors such as shortage of facilities. Teachers in this research were asked to rate the availability of facilities in their schools which could help them to implement inclusive education. Their ratings in Table 5.7 shows that majority (51.6%) teachers rated "Average", 22.6% rated "Low", and 13% rated "Very low" while 9.7% and 3.2% teachers rated "High" and "Very high" respectively. The result signifies that the availability of facilities in the schools for the implementation of inclusive education is average. This again means that teachers have facilities, though insufficient, which they can use as resources to implement inclusive education in the schools.

Table 5.8 Teachers' experiences of other teachers facing problems teaching in inclusive classrooms

Item	Alternatives	Responses	
		#	%
2.	Yes	17	54.8%
	No	12	38.7%
3.	Large class size	13	42%
	Lack of skills in selecting the variety of methods of teaching	6	19.4%
	Lack of commitment	4	13%
	Lack of mastery of the subject matter	0	0.0
	Other (s)	0	0.0

N.B. # = responses in number % = responses in percentage

The MoE (2006:7) states that most teachers in Ethiopia did not receive professional assistance. As can be seen from Table 5.8, out of the 29 teachers who responded to the question more than half (54.8%) teachers faced problems teaching in inclusive classrooms while the rest (42%) did not. Out of those teachers who responded that teachers faced problems teaching in inclusive classrooms, 42% of them said that the source of the problem was large class sizes, the other 19.4% said that this was due to teachers' lack of skills in selecting the variety of methods of teaching, followed by 13% teachers who said the cause was teachers' lack of commitment. This shows that visually-impaired learners are not being included in classrooms and their needs are not met.

Table 5.9 Teachers' response to whether they think that having visually-impaired learners in their classrooms is a burden

Item	**Alternatives**	**Responses**	
		#	**%**
4.	Yes	10	32.3%
	No	20	64.5%

N.B. # = responses in number % = responses in percentage

Though some research findings by Asrat (2013:61) reveal that teachers believe that learners with disabilities are a burden, Table 5.9 above shows that out of the teachers who responded to the question, many of them (64.5%) do not consider having visually-impaired learners in their classrooms as a burden. However, 32.3% teachers did consider having visually-impaired learners in their classrooms as a burden. The teachers who considered having visually-impaired learners as a burden were asked why this was the case. They mentioned that the learners had a shortage of materials such as Braille, audio-recorders and computers; briefing the learners on what teachers wrote on the chalkboards was difficult; the learners could not take notes; teachers lacked skills and commitment; teaching visually-impaired learners was time consuming; there was knowledge gap on how to teach visually-impaired learners; and large class size. In general, the results show that most teachers do not consider visually-impaired learners as burden in their classrooms. This means that the teachers have positive attitudes towards the learners and can support those learners.

Table 5.10 Teachers' academic support to visually-impaired learners

Item	Alternatives	Responses	
		#	%
6.	Yes	16	51.6%
	No	14	45.2%
7.	Too many learners in a class	6	19.4%
	Learners do not need support	2	6.5%
	Both learners and teachers have no time	4	13%
	Learners' varied types of impairment	1	3.2%
	Other (s)	0	0.0

N.B. # = responses in number % = responses in percentage

Etenesh (2000:5) disclosed that lack of support is one of the main barriers to the inclusion of learners in Ethiopian schools. However, responding to question 6 in Table 5.10, out of the 30 teachers who responded to the question, the a small majority (51.6%) of the teachers said that they give academic support to visually-impaired learners whereas 45.2% said that they did not give support to visually-impaired learners. The teachers who said that they did not give support to visually-impaired learners were asked why they did not do so. About 19.4% teachers replied that they did not give academic support to the learners because there were too many learners in their classes. In relation to this, researchers such as Tirussew (2005:120) found that large class size was one of the factors hindering the implementation of inclusive education at schools. Again, 13% teachers said that it is because both learners and teachers did not have time; 6.5% teachers thought that learners did not need support while 3.2% argued that the varied types of impairment were the problem.

The MoE (2006:5) states that the Education and Training Policy of Ethiopia lacks plans on how learners should be supported. The teachers who said that they gave academic support to visually-impaired learners were asked how they supported the learners. The teachers mentioned that they approached them kindly, asked them many oral questions, gave remedial classes, allotted additional time, asked the learners how they needed help, assigned clever learners to help visually-impaired learners, advised the learners to study, put visually-impaired learners in different groups, and gave them videos to listen to at home.

Table 5.11 Teachers' response to school principals' support to them in implementing inclusive education

Item	Alternatives	Responses	
		#	%
9.	Yes	16	51.6%
	No	12	38.7%
10.	Very high	1	3.2%
	High	3	9.7%
	Average	12	38.7%
	Very low	1	3.2%
	Low	3	9.7%

N.B. # = responses in number % = responses in percentage

Mariga, et al. (2014:100) suggests that since teachers are the main resources for the implementation of inclusive education, teachers should receive support from school principals. Out of the 28 teachers who responded to item 9 in Table 5.11, a small majority (51.6%) of the teachers said that school principals supported them in implementing inclusive education at their schools. However, 38.7% teachers replied that school principals did not support them in implementing inclusive education at their schools. Among the 16 teachers who said that their principals supported them in implementing inclusive education at their schools, 38.7% rated the principals' support as "Average"; 9.7% both "High" and "Low"; and 3.2% "Very high" and "Very low" respectively. The data indicates that majority of the teachers are receiving support from the principals at an average rate. However, a significant number of teachers are not getting support from the principals. In relation to this, a study conducted by Brown, et al. (2013:223) found that the support and resource provision for the staff, teacher training, and adult involvement were inadequate.

Table 5.12 Teachers' responses to the suitability of curricular materials to implement inclusive education

Item	Alternatives	Responses	
		#	%
1.	Yes	17	54.8%
	No	13	42%

N.B. # = responses in number % = responses in percentage

UNESCO (2003:16) says that curriculum plays a major role in the implementation of inclusive education and the inclusion of learners. To the reverse, curriculum could also be one of the barriers which could negatively affect inclusion of learners. The intention of asking Item 1 was to identify whether teachers believed that instructional

materials available in their schools were conducive to the implementation of inclusive education. Out of the 30 teachers who responded to the question, a small majority (54.8%) of the teachers responded that materials such as syllabus, textbooks, and teacher guides were conducive to implementing inclusive education. However, a significant number of teachers (13) said that curricular materials were not conducive to implementing inclusive education because the syllabus, textbooks, and teacher guide were not designed with visually-impaired learners in mind. They further mentioned that the teaching methods to use were not specified in the syllabus, some teachers did not have access to the syllabus, most content of the textbooks was not conducive to developing the knowledge of the learners, and textbooks had pictures and graphs.

Table 5.13 Teachers' rating to the availability of instructional materials in their schools

Item	Alternatives	Responses	
		#	%
3.	Very high	3	9.7%
	High	5	16.1%
	Average	10	32.3%
	Very low	9	29%
	Low	2	6.5%

N.B. # = responses in number % = responses in percentage

Assefa (2008:vii) and Anto (2004:24) found that lack of materials such as instructional materials is negatively affecting the implementation of inclusive education at schools in Ethiopia. Table 5.13 above shows that most of the teachers rated the availability of instructional materials in their schools was average and below average. About 32.3% teachers rated "average", 29% "Very low" and 6.5% "Low", but only eight teachers rated above average. This means that the availability of instructional materials in the schools is insufficient and much should be done on making the materials available otherwise inclusion cannot come to reality.

Table 5.14 Teachers' satisfaction on the service provided by the schools' libraries

Item	Alternatives	Responses	
		#	%
4.	Very high	5	16.1%
	High	3	9.7%
	Average	12	38.7%
	Very low	6	19.4%
	Low	3	9.7%

N.B. # = responses in number % = responses in percentage

Table 5.14 shows that 12% are averagely satisfied by the service their school libraries provided. Another 19.4% and 9.7% also rated that their satisfaction by their school libraries as very low and low respectively, but only 16.1% and 9.7% teachers responded that their satisfaction rate was very high and high respectively. This means that the satisfaction of the majority of the teachers by the service provided by their school libraries was average and less than average. This means that the libraries have to work on service provision to better satisfy the teachers. In relation to this, Hiwot (2011:76) found that Ethiopian schools have a shortage of material and facility provisions.

Table 5.15 Teachers' responses on visually-impaired learners' access to assistive technologies and teachers use of those technologies

Item	**Alternatives**	**Responses**	
		#	**%**
5.	Yes	10	32.3%
	No	20	64.5%
6.	Very high	0	0.0
	High	2	6.5%
	Average	2	6.5%
	Very low	4	13%
	Low	2	6.5%
7.	Lack of training	10	32.3%
	Lack of frequent use of the equipment	10	32.3%
	Other (s)	0	0.0

N.B. # = responses in number % = responses in percentage

According to Lewis and Doorlag (2011:306), learners' (such as visually-impaired learner) use of assistive technologies and materials has a decisive importance for their learning. Similarly, Goodwin (1969:2) states that use of assistive technologies facilitates learners' learning. In this study, teachers were asked to respond if they believed that visually-impaired learners had access to assistive technologies such as Braille, auditory aids, and other aids. While most of the teachers (64.5%) responded they did not believe the learners had access to those technologies, some 32.3% teachers believed that the learners did have access to assistive technologies. The teachers who responded that visually-impaired learners have access to assistive technologies were asked to rate their ability in using the technologies so as to help the learners. Though 6.5% of them rated "High" and "Average", the majority of the teachers rated below average: 13% rated 'Very Low" and 6.5% rated "Low'. In general, the above data signify that most of the teachers do not believe that visually-

impaired learners have access to assistive technologies. In addition, the majority of the teachers are not able to help the learners due to lack of training and lack of frequent use of the equipment.

Table 5.16 Teachers' level of support for the inclusion of visually-impaired learners

Item	Alternatives	Responses	
		#	%
8.	Very high	0	0.0
	High	8	25.8%
	Average	16	51.6%
	Very low	1	3.2%
	Low	4	13%

N.B. # = responses in number % = responses in percentage

Questionnaire participants were asked to rate the level of their support for the inclusion of visually-impaired learners. As Table 5.16 shows, a small majority of the teachers (51.6%) stated that they averagely contribute their support to the inclusion of the learners. Again, 25.8% teachers rated that they highly contribute their support to the inclusion of visually-impaired learners. However, 13% and 3.2% teachers respectively rated that their contribution of support was very low and low. In support of this, Smith et al., (2008:37) indicate that there are teachers who do not support the inclusion of learners with disabilities, such as visually-impaired learners, in their classrooms. The data show that majority of the teachers' contribution of support for the inclusion of visually-impaired learners is average followed by high.

5.6.3 Professional Training

Professional training was the other theme that emerged from the teachers' questionnaire. The teachers' responses and analysis of the data are presented in Table 5.17.

Table 5.17 Teachers training in inclusive education

Item	Alternatives	Responses	
		#	%
1.	Yes	7	22.6%
	No	21	67.7%
2.	Less than a month	6	19.4%
	One month	0	0.0
	Three months	1	3.2%
	Six months	0	0.0
	More than six months	0	0.0
3.	Very high	0	0.0

	High	0	0.0
	Average	5	16.1%
	Very low	1	3.2%
	Low	1	3.2%
4.	Very much related	0	0.0
	Somehow related	3	9.7%
	Not related	4	13%

N.B. # = responses in number % = responses in percentage

Teachers were asked if they had received training to become inclusive classroom teachers. The data in table 5.17 show that most (67.7%) of the teachers did not receive training to become inclusive classroom teachers; only 22.6% teachers did receive such training. Out of the 22.6% teachers, 19.4% of them had received training for less than a month, with one exception who received training of three months. This corresponds with Tirussew's (2005:109) study which shows that teachers are teaching learners with disabilities, but it contradicts Demetros (2007:25) who says that teachers should have knowledge, skills and positive attitudes to teach diverse classrooms. Among the teachers who received training, 16.1% rated the significance of the training as average while the remaining 3.2% rated the significance of the training as very low and low respectively. Again, out of the teachers who received training, 13% of them received unrelated training and 9.7% received partially-related training. The data in the table show that most teachers did not receive training to become inclusive classroom teachers and those who received training did not receive enough training and the significance of the training was average. This again means that even those teachers who received training did not receive high-quality, relevant training. A study conducted by Mwakyeja (2013:78) in Tanzania reveals a similar result, namely that teachers do not have the knowledge of how to include visually-impaired learners. Similarly, a study conducted in Ethiopia by Awetash (2015:77) shows that teachers have lack of competence, and training. Hence, Ainscow et al. (1998:30) and Mutisya (2010:37) indicate that teachers should receive training not only at some point of their career but continuously. Smith, et al., (2008:526) also state that teachers should not be trained as content specialists but they should be trained to fulfil the educational needs of learners. If not, the learners will keep being excluded.

5.6.4 Teachers' Use of Strategies to include Visually-Impaired Learners

This theme was another theme which emerged from the questionnaire data. The data and their analysis are presented in the below Table 5.18.

Table 5.18 Teachers' use of teaching strategies

Item	Alternatives	Responses	
		#	%
1.	Cooperative learning	25	80.6%
	Peer tutoring	15	48%
	Collaborative teaching	15	48%
	Other (s)	0	0.0

N.B. # = responses in number % = responses in percentage

Downing and Chen (2003:5) state that when the teachers notice that there are learners with disabilities in their classrooms such as visually-impaired learners, the teachers should design teaching strategies which fulfil the learners' needs. The data in Table 5.18 indicate that most teachers (80.6%) use cooperative learning, 48% use peer tutoring, and another 48% use collaborative teaching. This means that most of the teachers use the cooperative learning strategy to include visually-impaired learners in their classrooms followed by peer tutoring and collaborative teaching.

Michel (2008:31) recommends that to meet the different needs of learners, teachers should use different teaching strategies. In this research, the teachers were also asked why they used the teaching strategies. The teachers elaborated that they used the above-mentioned teaching strategies because they believed that the strategies were helpful for visually-impaired learners in that:

- they created a good learning environment;
- visually-impaired learners could motivate other learners;
- they gave enough information to visually-impaired learners;
- they enabled all learners to discuss in groups,
- they accommodated large class sizes;
- they allowed for learner centred teaching;
- they helped visually-impaired learners to be assisted by other learners;
- they increased learners' participation;
- they created good communication among learners; and
- learners shared experiences through the strategies.

Additionally, some teachers mentioned that they used the teaching strategies because they were necessary, but they simplified them, due to lack of time or to save time and because appropriate time was not allocated to the subjects they teach. The most repeated reason why the teachers used the teaching strategies was that of large class size.

To investigate further, the teachers were asked how they used the teaching strategies. The teachers responded that they use them in a learner-centred way, by group discussions, based on learners' preferences; by considering the content of the materials; by identifying learners' needs; and by giving questions to learners. The teachers were also asked what challenges they faced in applying the teaching strategies. Their responses were: learners' lack of interest; shortage of materials; large class sizes; time constraints; lack of training from the teachers' side; low understanding levels of learners; lack of learners' concentration; teachers' inability to identify the ability of each learner; teacher dominance; low level of learners' participation; lack of desks; and learners' varied interests. Some teachers also added that when lessons had pictures, blind learners did not participate; blind learners did not take notes because they did not have Braille writers; blind learners do not read at home ahead of time; and visually-impaired learners could not be leaders in group discussions.

The data in Table 5.18 show that teachers, top a greater or lesser extent, use cooperative learning, peer tutoring and collaborative teaching respectively to include the visually-impaired learners in their classrooms. The teachers had various reasons for why and how they used them and the challenges they faced.

5.6.5 Classroom Environment

Classroom environment was one of the themes which appeared from the teachers' questionnaire data. To investigate teachers' responses to classroom environment, "Yes" or "No" questions were prepared followed by an open-ended question.

Table 5.19 Teachers' response to classrooms environment

	Items	Yes		No	
		Responses			
		#	%	#	%
1	Are chairs and desks designed with the consideration of	9	29%	22	71%

	visually-impaired learners' disability?				
2	Does the classroom have facilities such as sound, ventilation and light?	11	35.5%	19	61.3%
3	Is the classroom well decorated and attractive?	13	42%	19	61.3%
4	Can visually-impaired learners move easily in the classroom?	11	35.5%	18	58%
5	Does the classroom have enough space for group work arrangement?	16	51.6%	14	45.2%
6	Is electric socket accessible to use tape recorder and other electronic devices?	11	35.5%	19	61.3%
7	Do you give a chance to visually-impaired learners to explore the classroom and practice to move?	16	51.6%	14	45.2%
8	Is the sitting position of the visually-impaired learners comfortable?	12	38.7%	18	58%
9	Do sighted learners assist visually-impaired learners in directing and describing new classroom arrangements?	19	61.3%	10	32.3%

N.B. # = responses in number % = responses in percentage

English (2011:305) suggests that classroom furniture such as chairs, desks and tables should be adapted for visually-impaired learners. In addition, Assefa (2008:15) indicates that learning environments should be safe and secure, and should have classroom facilities such as sound facilities, electrical sockets for audio-recorders, and electricity. However, in Table 5.19, 71% of the participants responded that chairs and desks were not designed with consideration of visually-impaired learners' disability. In addition, 61.3% teachers indicated that classrooms did not have facilities such as sound, ventilation and power. The same percentage of teachers (i.e. 61.3%) also reported that classrooms were not well decorated and attractive. Kaplan (2007:18) points out that learner's educational experiences can be affected by the appearance of the classrooms. Again, 58% teachers responded that visually-impaired learners cannot easily move in the classrooms. With regard to electrical sockets, 61.3% teachers reported that they are not able to use audio-recorder and other electronic devices. On the other hand, 58% of the teachers responded that the sitting positions of the visually-impaired learners are not comfortable. Similarly, a study by Anto (2004:24) shows that classroom settings are not inclusive to visually-impaired learners. However, 51.6% teachers believed that classrooms had enough space for group work arrangements. The same percentage of teachers also indicated that they give a chance to visually-impaired learners to explore the classroom and practise moving around in it. In relation to sighted learners helping visually-impaired learners, 61.3% teachers said that sighted learners assisted visually-impaired learners in directing them and describing new classroom arrangements.

In general, the above data implies that in some ways, classes and facilities are not designed for visually-impaired learners, but help is provided to learners in various ways to overcome these physical limitations.

5.6.6 Availability of Inclusive and Flexible Curriculum

Curriculum was the other theme which came out of the teachers' questionnaire. Table 5.20 below shows the results.

Table 5.20 Teachers' response to curriculum design

Item	Alternatives	Responses	
		#	%
1.	Yes	12	38.7%
	No	18	58%

N.B. # = responses in number % = responses in percentage

A study by Asrat (2013:66) discloses that lack of adapted curriculum is one of the factors affecting the implementation of inclusive education in Ethiopian schools. Teachers were asked whether they believed that the curriculum is designed according to the needs of the learners. Out of the 30 teachers who responded to the question, the majority (58%) indicated that the curriculum is not designed with consideration for the learners' needs. In relation to this, Smith, et al. (2008:526) argue that if the curriculum is designed without taking the learners' needs and conditions into account; the learners will not succeed in their education. Likewise, Mpya (2007:39) argues that inflexible curriculum, that does not consider learners' needs, will not produce the desired educational outcomes. However, some 38.7% teachers said that the curriculum was designed with consideration for the learners' needs. The teachers who responded that the curriculum is not designed based on learners' needs were asked why they said so. They reasoned that there were not enough facilities and materials to facilitate visually-impaired learners' learning; the curriculum had many exercises that the learners did not like; the curriculum was designed for the sighted population; textbooks had many pictures and passages which were difficult for visually-impaired learners to easily understand; textbooks are too broad; textbooks have repetitive content; and there are no special supports provided. This means that school curricula are not designed taking learners' conditions in to account.

Table 5.21 Teachers' curriculum adaptation to include visually-impaired learners in their classes

Item	Alternatives	Responses	
		#	%
3.	Yes	14	45.2%
	No	13	42%

N.B. # = responses in number % = responses in percentage

Table 5.21 shows that out of the 27 teachers who responded to Item 3, 45.2% reported that they adapted the curriculum to include visually-impaired learners in their classes. However, 42% replied that they did not adapt the curriculum. A study by Anto (2004:24) shows that lack of curricular adaptations affect the implementation of inclusive education. More specifically, Asrat (2013:66) reveals that teachers are not adapting the curriculum to meet the needs of learners. Following question 3, the teachers were asked why or why they did not adapt the curriculum. The teachers who said they adapted the curriculum explained that the curriculum did not meet the needs of visually-impaired learners; visually-impaired learners did not have supportive materials; and visually-impaired learners could not easily understand maps and graphs. The teachers who said that they did not adapt the curriculum said that they themselves had a lack of knowledge about how to teach visually-impaired learners in general classrooms; visually-impaired learners learned equally well as sighted learners; and it is difficult to harmonise teaching of visually-impaired and sighted learners.

The data in Table 5.21 implies that while the majority of the teachers adapt the curriculum to include visually-impaired learners, a significant number of teachers do not adapt it for various reasons. However, Mutisya (2010:35) argues that every teacher should consider his/her learners' conditions when he/she plans lessons.

5.6.7 Appropriate Educational Assessment

Two assessment-related questions were asked to investigate how teachers assessed visually-impaired learners' learning. One of the questions was open-ended and the other one was closed-ended. Table 5.22 reflects the results.

Table 5.22 Teachers' use of type of assessment

Item	Alternatives	Responses	
		#	%
1.	Criterion-referenced	12	38.7%
	Norm-referenced	19	61.3%

N.B. # = responses in number % = responses in percentage

Teachers' responses to whether they use criterion or norm-referenced types of assessments show that most of the teachers (61.3%) used norm-referenced type of assessment whereas 38.7% of them said that they used criterion-referenced type of assessment to assess visually-impaired learners' learning. The teachers were also asked how they assessed the learners' learning. Most of the teachers replied that they assessed visually-impaired learners' learning by asking or reading questions orally, sometimes with the assistance of sighted learners, and giving individual and group work. In addition, some other teachers said that they assessed visually-impaired learners' learning in the same way as they assessed sighted learners' learning. Regarding these assessments, Salvia and Ysseldyke (2004:163-165) state that it is not fair to present norm-referenced assessments to visually-impaired learners because they should not be compared to the norm group.

5.6.8 Barriers to the Inclusion of Visually-Impaired Learners

Barriers to the inclusion of visually-impaired learners emerged from the data collected by the teachers' questionnaire. The teachers were requested to rate which of the barriers had the greatest impact or the least impact on the inclusion of visually-impaired learners' inclusion in classrooms. It was open for the teachers to rate more than one barrier. After that, the teachers were again requested to recommend how the barriers could be removed. The data analysis from the teachers' responses is provided in Table 5.23 below.

Table 5.23 Teachers' response to the barriers affecting the inclusion of visually-impaired learners' in classrooms

Item	Alternatives	Responses	
		#	%
3.	Social and cultural barriers	7	22.6%
	Academic barriers	5	16.1%
	Environmental barriers	15	48%
	The impairment itself	7	22.6%

N.B. # = responses in number % = responses in percentage

As can be seen from Table 5.23, 48% of the teachers rated environmental barriers as the primary barrier to the inclusion of visually-impaired learners in classrooms. In support of this, Mary (2008:66) says that the physical environment has an impact on the learners' access to learning and their academic achievements. Following those, the other two most barriers rated by similar percentages of teachers (22.6%) were social and cultural barriers, and visual impairment itself. A study that came up with similar result by Human (2010:iii) that also shows that visually-impaired learners are still excluded by society. In addition, Carney, et al. (2003:6) indicate that the impairment itself is a barrier to the learners' inclusion. The least rated barrier by 16.1% was academic barrier. This means that environmental barriers are the main barriers to the inclusion of visually-impaired learners in classrooms followed by social and cultural barriers, and the impairment itself. Academic barriers are the smallest barrier to the inclusion of the learners in the classrooms. In general, in relation to the above result, Enerstvedt (1996:4) discusses that visually-impaired people have to overcome many barriers in their lives including the barriers mentioned above.

Teachers were requested to recommend how to alleviate the barriers. The teachers' recommendations include:

- physical learning environment should be conducive to the learners;
- schools should be constructed considering visually-impaired learners' conditions;
- awareness should be created within both inside and outside school community;
- equipment and materials should be made available for the learners;
- there must special needs teachers in the schools;
- class size should be minimised;
- learners should receive support;
- the government should help visually-impaired learners financially; and
- all the problems that visually-impaired learners face should be reported to concerned bodies, government and NGOs by the schools.

5.7 CHAPTER SUMMARY

In this chapter results gained from the four data collection instruments namely interview, focus group discussion, observation and questionnaire were presented

under different themes. In addition, descriptions of the school settings and characteristics of research participants were provided.

The main research findings reveal that visually-impaired learners are facing both social and cultural challenges. However, teachers and some sighted learners do not have the same attitude towards low vision learners. It was also discovered that sighted learners coming from rural areas are not aware of visual impairment and the outside school community does not have a positive attitude to visually-impaired learners. In addition, the overall environmental situations of the schools for visually-impaired learners are not inclusive. The schools' curricula are not inclusive and visually-impaired learners curricular needs are not fulfilled in the schools. The results also revealed that teachers are not getting enough in-service training in inclusive education and do not have up-to-date information about inclusion and inclusive education. There is no collaboration among professionals in the schools; visually-impaired learners are not properly assessed; the availability of resource and support for teachers and visually-impaired learners are very limited. Although there are variations in the teacher-learner ratio in the two schools, what both the schools share is that they have large class sizes; the impairment itself contributes to the exclusion of the learners; and teachers are either not using strategies or are not using the strategies appropriately to include visually-impaired learners. Furthermore, results show that there are no enough technological resources available for visually-impaired learners and teachers to use.

CHAPTER 6

LITERATURE REVIEW SUMMARY, SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The aim of the present research was to investigate the inclusion of visually-impaired learners in Ethiopian secondary schools. The main research question was: What is the nature of school inclusivity regarding visually-impaired learners in Tigray Secondary Schools of Ethiopia. The sub-questions were a) What are the barriers hindering the actualisation and implementation of inclusive education in the schools? b) What are the barriers impeding the inclusion of visually-impaired learners in the selected schools? c) What strategies can be employed to ensure the inclusion of visually-impaired learners?

To answer the research questions, literature was consulted; all necessary data were collected through four instruments: interview, focus group discussion, observation and questionnaire from grade 9 and 10 teachers, learners and school principals. Then, the data were presented and analysed under different themes. Based on the presentation and analysis of the data, findings are summarised, conclusions are made and recommendations are forwarded, but first a summary of the literature reviewed is presented.

6.2 LITERATURE REVIEW SUMMARY

Chapter 2 and 3 constituted the literature review of this research. In Chapter 2, the theoretical framework that this research has followed is first explained. The theory followed in this research is John Rawls' Theory of Justice. The theory has two principles that are liberty and social equality. According to the theory, persons with disabilities such as visually-impaired persons should have the right to liberty and social equality. The concept of social justice advocates that education should be just and fair to learners with kind of backgrounds. As a result, scholars indicated that inclusive education originates in human rights and social justice. Studies also show that disability is not a health-related problem rather it is a social problem. Hence, the stand of this research is that the impairment of the learners that is visual impairment should be viewed from the social justice perspective.

In the same chapter (i.e. Chapter 2), the nature of secondary school inclusivity for visually-impaired learners from historical and international perspectives was reviewed. The history of education for visually-impaired persons was explained. Literature shows that visually-impaired people were largely discriminated against before the 19th century with the exception in the ancient Egyptian context where blind people had high leadership positions. However, after the introduction of special needs education, institutional movements towards peoples with disabilities across Europe and the United States evolved in the 19th century. Attitudinal changes were seen and people started to understand that persons with disabilities can learn like others. After a long process, the 1994 Salamanca Statement made inclusion familiar. As the result of the statement and other agreements and declarations, world governments started to revise their education policies so as to include learners with disabilities.

The literature also made clear the situation of inclusion and the education of visually-impaired learners in developed and developing countries contexts. Literature indicates that inclusion was first introduced first in developed countries and later spread to developing countries. The main actors in the spread of inclusive education were UN agencies. The literature shows that the understanding and practice of inclusive education in developed and developing countries is different. Developed countries have a better understanding and practice of inclusive education than developing countries.

Regarding the Ethiopian context of the education and inclusion of visually-impaired learners, the first school for the blind was opened in 1917 but it was not inclusive. However, after the1994 Salamanca Statement conference and other following agreements and declarations, the current government of Ethiopia revised the education policy and incorporated inclusive education into it. Similarly, literature shows that the legal and constitutional aspects of the country create a favourable environment for inclusive education, but none of the documents have disability specific clarifications. Again, the practice of inclusive education in Ethiopia is very limited.

Chapter 3 of the research also discussed the barriers which hinder the inclusion of visually-impaired learners and the strategies that can be used to realise the inclusion

of visually-impaired learners. The literature indicates that the barriers which hinder the inclusion of visually-impaired learners include social and cultural barriers, environmental barriers, academic barriers and the impairment itself. Social and cultural barriers exist due to the communities' negative attitudes towards visually-impaired learners and they do not have awareness about visual impairment and inclusion. In addition, academic barriers such as rigid curriculum, lack of teachers' training, lack of professional collaboration, inappropriate educational assessment, lack of resources and support, high teacher-learner ratios and large class sizes are affecting the inclusion of learners such as visually-impaired learners in regular schools. Similarly, literature reveals that the impairment itself is a barrier to the inclusion of the learners. To address the mentioned barriers, the literature review has advocated various strategies that can enhance the inclusion of the learners. These include use of cooperative learning, peer learning, collaborative teaching and consultation, and assistive technologies and materials.

6.3 SUMMARY OF FINDINGS

Regarding the social and cultural barriers, the research results show that the inside and outside school communities have little awareness of learners with disabilities especially visually-impaired learners. The communities' culture, social norms and beliefs are affecting learners' inclusion inside and outside the schools. To solve the problem, though School A and visually-impaired learners are trying to raise awareness to the community, but there are no prior-awareness creation experiences being provided to the learners and the community for the process of inclusion in both the schools. This has caused the problem that some learners who come from rural areas and the outside school community have negative attitudes towards visually-impaired learners. In addition, teachers and some sighted learners do not have a positive attitude towards low-vision learners, but most of the school community has positive attitude towards blind learners and has good interaction with the learners, although the outside school community does not have a positive attitude towards visually-impaired learners. Again, the results show that teachers have good attitude regarding inclusion.

According to the results of this study, environmental barriers to the actualisation of inclusive education and the inclusion of visually-impaired learners are the main

barriers. The locations of the schools and the environments of the schools and their classrooms are not comfortable. The schools were not built considering learners' conditions. The availability and accessibility of facilities such as toilets, water, sound, ventilation, power, library, computer rooms, and cafeteria are very limited. Classrooms do not have comfortable and accessible furnishings and enough space for movements. They do not have power, electrical sockets, good chalkboards and desks. Classrooms are not well-decorated and attractive. As a result, the environmental situation of the schools are not inclusive.

Another barrier that is affecting the implementation of inclusive education and the inclusion of visually-impaired learners is the academic barrier. The results show that schools' curriculum is not inclusive or flexible. Curriculum was not designed with the consideration of learners with disabilities, such as the visually-impaired. Consequently, visually-impaired learners do not have instructional materials prepared based on an inclusive curriculum. Though most of the teachers from School A said that they adapt the curriculum, most teachers from both the schools were not observed adapting the curriculum to meet the curricular needs of the learners. In mentioning the main problems of the curriculum, the results show that textbooks have thick contents, lack of facilities and materials for learners, too many exercises in the textbooks, the presence of pictures and long passages in the textbooks, and lack of support for learners and teachers.

The other major academic barrier found was lack of professional training. The results show that both school principals and teachers did not receive training in inclusive education on how to implement it, how to handle it and how to include learners with disabilities including visually-impaired learners. Most of the teachers took Special Needs Education courses during their undergraduate degrees. However, they did not receive clear training on specific disabilities and had no training during their in-service times. The educators are not receiving continuous professional development training. Furthermore, there is no collaboration among the professionals in the schools. However, the results indicate that specialists from Tigray Region Education bureau are supporting the schools. Similarly, an NGO called Sun Way Ethiopia is supporting School B by training learners and the principal. However, the teachers are not being supported by the professionals from the organisations.

Again, the educational assessment mechanism used to assess learners' learning is not inclusive and appropriate. The assessments do not consider the learners' conditions such as visually-impaired learners' sight conditions. The reasons are lack of materials, time constraints and lack of teachers' commitment, but teachers do use criterion-referenced assessment to determine the learners' performance and achievement.

In relation to the availability of resources and support, School A is relatively better-resourced than School B. While the first school has four textbooks in Braille, the second school does not have books in Braille but has two audio-recorded textbooks and chapters of textbooks. The schools have scarce budgets for resources and support. Generally speaking, the schools do not have enough resources either for educators or learners. As a result, the majority of the teachers are facing problems teaching in inclusive classrooms. However, most of the teachers believed that the present instructional materials are suitable to implement inclusive education and are happy with the service of the libraries of their schools. To the contrary, visually-impaired learners do not have materials. Most of the blind learners do not have Braille writers. In addition, learners and their teachers are not supported in any way. The only support is that sighted learners help visually-impaired learners by reading to them, and showing and giving directions regarding the schools' physical setup. Most teachers' contribution of support to the inclusion of visually-impaired learners is average and above, but teachers do not have enough time and incentives to help the learners. Again, some teachers also try to support visually-impaired learners by giving their notes to low-vision learners. Nevertheless, the results show that supporting low-vision learners is difficult because they cannot easily identify them and they are not identified during registration. Schools therefore do not have a clear record of low-vision learners.

On the other hand, results on the teacher-learner ratio show that both schools have large class sizes though School B has smaller class sizes than School A. The results again show that large class size is affecting the inclusion of learners such as visually-impaired learners.

Based on the analysis of the data, the other barrier to the inclusion of visually-impaired learners is the impairment itself which is visual impairment. Vision loss is

affecting learners' learning and inclusion. It is also affecting their social, economic, and educational prospects due to lack of access to assistive technologies and materials. Consequently, they are dependent on others.

To help the learners to be included, teachers are expected to use strategies to include learners like visually-impaired learners, but the results show that teachers generally do not use strategies such as peer learning, cooperative learning, collaborative teaching or any other strategies. The teachers argued that they use these strategies but their ways of using them are not convincing. In addition, teachers and learners use of assistive technologies and materials is limited. Most of the blind learners do not have basic materials such as Braille. Teachers do not have access to technologies and do not know how to use them, but there are some computers in the schools. Plasma TVs are also available but not functioning. In general, although there seems to be introduction of assistive technologies and materials in the schools, teachers and learners' access to and use of the technologies and materials are very limited.

To sum up, the overall findings of this study disclosed that the nature of school inclusivity regarding visually-impaired learners in secondary schools of Ethiopia is poor and visually-impaired learners are excluded. As a result, the exclusive nature of the schools is affecting the implementation and actualisation of inclusive education.

6.4 CONCLUSIONS

Based on the findings of the research, the following conclusions are drawn.

- Communities' social and cultural norms and beliefs have negative effects on the implementation and actualisation of inclusive education and the inclusion of visually-impaired learners at Ethiopian secondary schools. This is mainly because the inside and outside school communities have limited awareness about inclusive education, visual impairment, and the inclusion of visually-impaired learners. In addition, there are no awareness campaigns about inclusion of visually-impaired learners by secondary schools to the communities. However, the visually-impaired learners themselves are creating awareness in their communities in some cases by participating in different activities such as playing

soccer games, participating in athletics and competing in poetry and music competitions.

- The outside school community and learners who come from rural areas have negative attitudes towards visually-impaired learners. Again, despite the fact that teachers have positive attitude to inclusion, teachers and some sighted learners do not have positive attitudes to low-vision learners. However, most of the school communities have positive attitudes to blind learners.

- There is a high negative effect of environmental barriers to the implementation and actualisation of inclusive education and the inclusion of visually-impaired learners. The school and classroom environments have restrictions and therefore are not learner-friendly and inclusive.

- Academic barriers such as lack of flexible and inclusive curriculum, lack of professional training for educators, inappropriate educational assessment by teachers due to teachers' lack of commitment, time constraints and shortage of materials, lack of resources (like textbooks, reference and instructional materials), support by principals of teachers and teachers of learners, high teacher-learner ratios and large class sizes, and negligible professional collaboration among professionals are negatively impacting the practice of inclusion and the inclusion of visually-impaired learners. In addition, teachers do not receive disability specific training.

- Though the 1994 Education and Training Policy prepared by the MoE says that marginalised or disadvantaged learners will receive special support; there is a great shortage of resources and supports, including financial support for the inclusion programme and the inclusion of learners including visually-impaired learners in secondary schools.

- Learners' impairments such as visual impairment contribute to their exclusions. They are affecting their learning both economically and socially. The learners are marginalised by communities especially by the outside school communities due to their impairments.

- Secondary schools do not have reliable information about impaired learners. The two schools studied did not have a clear record of low vision learners.

- Teachers' use of strategies to include learners such as visually-impaired learners is minimal. This is due to lack of professional training which shows that MoE's commitment to capacity building of teachers by improving both pre-service and in-service teacher education programmes is not being implemented. Therefore, it was difficult for teachers who do not take any inclusive strategy training to implement inclusive education programmes in schools.

- The 2006 Special Needs Education Program Strategy says that learners including visually-impaired should acquire basic skills such as writing and reading in Braille. However, what was found in this research is that most of the learners do not have the skills and access to basic materials such as Braille writers. Again, both teachers and learners' access to and use of assistive technologies and materials are very limited.

6.5 RECOMMENDATIONS FROM THE STUDY

The study has revealed that there is an increasing number of learners with disabilities in Ethiopian schools. There will also be many learners in the future as a result of the Ministry of Education's aim to make education accessible to all children and learners. This requires the government to work on the inclusion of all types of learners with different types of abilities and disabilities. Therefore, the MoE, Regional Education Bureaus, Woreda Education Bureaus, schools, teachers, parents and education stakeholder NGOs must work on the implementation and realisation of inclusive education. They should also be committed to eliminating the barriers hindering the inclusion process and the implementation of inclusive education at schools. The recommendations from this research will help the MoE, curriculum developers, schools, teachers, and other non-governmental organisations to consider learners with disabilities in their programmes and plans of inclusion. Based on the findings revealed and conclusions made, the following specific recommendations are also forwarded.

- The Ministry of Education, Regional Education Bureau and Secondary Schools should work on awareness creation mechanisms including prior-awareness

creation and should raise awareness in the communities about inclusive education, impairments and impaired learners for the effective implementation of inclusive education and the inclusion of visually-impaired learners. Especially secondary schools have to work on information campaigns and permanent efforts through public education by different means such as using civic leaders, religious leaders and media to change social and cultural traditions of the communities which hinder impaired learners education and inclusion.

- Inside and outside school communities could not have indifferent attitudes towards the inclusion programme and impaired learners without receiving training and awareness-creation on inclusive education and impairments. This means that school communities should have a shared vision and commitment to the inclusion of all learners. As a result, training which could change the attitudinal problems of communities should be organised by schools and stakeholders.
- Community participation in school design starting from the beginning of their construction and working on a learner-friendly environment promotes inclusiveness of schools. So, parents, teachers, learners and inclusive education specialists should participate in the design and construction of schools so as to minimise the environmental barriers to the inclusion of learners and to promote learner-friendly school environments. Child/learner-friendly school environments should be developed by making the schools physically accessible and conducive in order for the learners to acquire the best advantage from education and to exercise their right to be included. In addition, since most of the impaired learners travel long distances to attend school, inclusive secondary schools should be built nearby the learners' homes (towns and villages) so that they will receive support from their parents and the community.
- Curriculum adaptation and modification foster the inclusion process. The current curriculum that the schools are using is designed without the consideration of learners' impairments. So, it is advisable that the Ethiopian Ministry of Education should revise the current curriculum and make it inclusive and flexible for adaptation. Again, teachers should receive training on disability specific matters. It is also recommended that secondary school teachers and principals should be given pre-service, in-service and continuous professional development training along with supervisory assistance and workshops on inclusive education,

educational needs of learners with specific disabilities and inclusion such as the inclusion of visually-impaired learners. On the other hand, teaching needs collaboration among professionals. If there is collaboration, then there will be experience-sharing among professionals during lesson planning and lesson delivery. Thus, secondary school teachers should receive training on how to collaborate with other professionals, prepare inclusive educational assessment, support learners, and include learners with disabilities in their classrooms. In addition, specialists such as counsellors and Special Education Needs/Inclusive Education professionals should be assigned in secondary schools to support both teachers and learners. Again, crowded classrooms are really challenging to teachers. Recent thinking on classroom size is that there should be small and manageable number of learners. Learners in Ethiopian schools are more than what the MoE has set as a policy which is not more than fifty (50) learners in a classroom. Taking note of this, the secondary schools, Tigray Region Education Bureau and the Ministry of Education in collaboration with the City Administration have to solve large class size problems by training more teachers, building more schools and providing more classrooms.

- Resources such as instructional materials, textbooks, reference books, Braille books and audio recorded materials and supports like principals' support of teachers, teachers support of learners and learner-to-learner support are mandatory to promote teachers' teaching and learners' learning. More importantly, they are crucial for the realisation of the inclusion programme, but there is a general lack of support in Ethiopian secondary schools except for the limited experiences of learner-to-learner support. Therefore, the MoE and Tigray Region Education Bureau should allocate enough finances and provide necessary resources and support to the schools in order to provide instructional and learning materials for teachers and learners so as to improve teachers' limited experience of inclusion and learners' dependency on others. Above all, basic learning materials such Braille writers which facilitate and consider learners' special educational needs should be made available.
- The public including the impaired people themselves should be aware of impairment. Governmental and non-governmental institutions should work on

awareness campaigns. The institutions should also provide both psychosocial and economic support to impaired people, including visually-impaired ones.

- Secondary schools should have a reliable record of their learners with different abilities and disabilities. Hence, the registration process of the learners should include an identification process in order to have clear data on the learners. Then, they should receive special support in order to lessen the effect of impairments on learning and inclusion.
- Teachers should receive professional training on how to use strategies (such as cooperative learning, peer tutoring, collaborative teaching and consultation, and use of assistive technologies and materials) to include all types of learners in their classrooms in order to develop their habit of using appropriate inclusive classroom teaching strategies.
- Secondary schools should provide assistive technologies and materials to both teachers and learners in order to facilitate the teaching-learning process and to improve the learning situations of the learners. In addition, the schools should train both teachers and learners on how to use those technologies and materials in order for the teachers and learners to keep up with recent technological innovations.

6.6 RECOMMENDATIONS FOR FURTHER RESEARCH

Conducting research is not only about searching for a scientific answer to the research question raised but also it is about identifying other questions to be addressed through research. Hence, the following recommendations are made for future research:

- Conducting research on the social inclusion of learners such as visually-impaired learners with a large sample size is recommended.
- Interested researchers could study the role of parents in the inclusion of their children at schools.

6.7 STAKEHOLDERS IN EDUCATION COLLABORATION MODEL

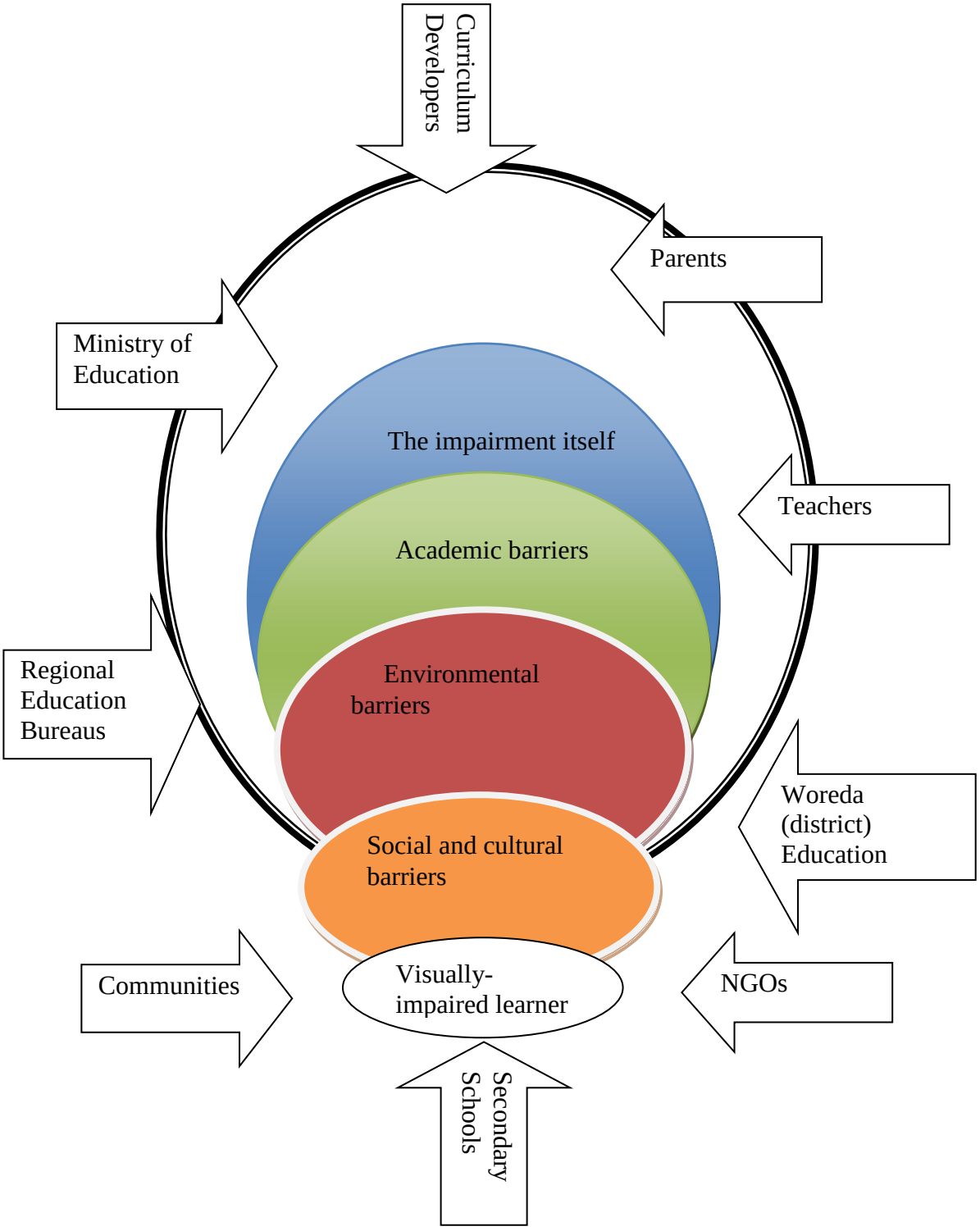
The aim of this research was to investigate the inclusion of visually-impaired learners in Ethiopia. The study was conducted using interviews, focus group discussion,

observation and a questionnaire so as to look into the real inclusion experience of visually-impaired learners in secondary schools of Ethiopia. As a result, the study has contributed to knowledge in two ways. It has provided evidence in the Ethiopian context that visually-impaired learners are experiencing exclusion in secondary schools. The study has also contributed to the knowledge about the barriers hindering the inclusion of visually-impaired learners in schools. Again, this study has raised awareness on the nature of school exclusion and challenges faced by visually-impaired learners who experience exclusion.

In addition, this study has made practical recommendations to MoE, Regional Education Bureaus, secondary schools, curriculum developers, teachers, parents, communities and NGOs that may be used to reduce and eliminate the exclusion experience of learners in schools. The results of this study can be helpful in planning and designing inclusion practices considering the strategies that can be employed to realise the inclusion of visually-impaired learners. In addition, this study has identified the gaps that need further investigation. Lastly, the overall understanding of the exclusion situation of visually-impaired learners in Ethiopian context has contributed to the global knowledge.

The below model is Ethiopian stakeholders in education collaboration model.

Figure 6.1 Ethiopian stakeholders in education collaboration model



The above model shows that the barriers to the inclusion of visually-impaired learners in Ethiopian schools include social and cultural, environmental, academic, and the impairment itself. The aim of the model is to show that stakeholders such as

MoE, curriculum developers, regional education bureaus, woreda (district) education bureaus, secondary schools, teachers, communities, and NGOs can collaborate to reduce and eliminate the barriers to the inclusion of visually-impaired learners in schools. Therefore, education stakeholders can use this model to tackle such barriers which are affecting the inclusion of learners. They can also use it to include learners who are excluded in schools. If the stakeholders can adapt the model to their contexts and use it for the inclusion of learners with similar impairments who are experiencing exclusion, the learners' exclusion issues could be addressed.

6.8 DELIMITATION AND LIMITATIONS OF THE STUDY

This study was delimited to Tigray Regional State (Ethiopia) to investigate the inclusion of visually-impaired secondary school learners. The research was delimited to two secondary schools due to the nature of the study which is a case study that demands in-depth investigation and due to the fact that case study researches require ample information so as to make detailed conclusion. There were only two secondary schools which admit visually-impaired learners in the city. Consequently, the study was delimited in its scope to the two schools.

The study is also delimited to one of the impairments i.e., visual impairment for various reasons. Firstly, teaching visually-impaired learners has a longer history than others in the country. Secondly, many visually-impaired learners are seen to join regular secondary schools than learners having other types of sensory impairments. Hence, the applicability of this research to learners with other types of impairments would be limited.

This research, again, is delimited to its research design and methodology. This research is a mixed methods research, although mainly qualitative, which has used a constructivist paradigm. The participants included in the study were school principals, teachers, and learners. In order to gather relevant information, the researcher also employed four types of data gathering methods which were interview, focus group discussion, observation, and questionnaire.

The limitations sought in conducting this research were teachers' willingness to participate in the study. Identifying low-vision learners in the schools was also challenging due to schools' low-quality data records of the learners. Above all, the

availability of research work in the area in an Ethiopian context and shortage of literature in Ethiopian libraries were two big challenges.

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APPENDICES

APPENDIX A1: FOCUS GROUP DISCUSSION GUIDE FOR VISUALLY-IMPAIRED LEARNERS

Background information

1. School name _____
2. Age _____
3. Gender Male _____Female _____Total _____
4. Grade level _____
5. Type of impairment (blind, low vision) _____

Semi-structured interview questions

1. What can you say about your educational experience at your school?
2. Please give me more information on how does your vision loss affect your learning?
3. How do you explain the interaction between visually-impaired learners, sighted learners and teachers? How does it affect your leaning?
4. What is the attitude of sighted learners, teachers and the whole school community towards visually-impaired learners and vice versa? How does this affect visually-impaired learners' learning?
5. Do teachers use different teaching strategies such as peer tutoring, cooperative learning, and collaborative teaching or encourage you to use assistive equipments in the classroom? Please explain on how teachers use them.
6. How do your teachers assess your learning and how does assessment affect your learning?
7. Explain on the ways in which the specialists in the school help you in resource preparation and familiarizing with the school environment?
8. What barriers do you encounter in learning in inclusive schools/classrooms and how are the following barriers affecting visually-impaired learners' inclusion and learning?
   a) Social and cultural barriers
   b) Environmental barriers

c) Academic barriers

d) The impairment itself

9. What solutions do you suggest to solve the problem/s?
10. How do you see the inclusiveness of your school in general and the inclusion of visually-impaired learners in particular?

Below is the translation of the questions to Tigrigna.

ንጉድኣት ዓይኒ ዘለዎም ተምሃሮ ዝተዳለወ ናይ ጉጅለ መመያየጢ ውሃቢ ኣንፈት

<u>ድሕረ ባይታ</u>

1. ሽም ቤት ትምህርቲ _____
2. ዕድመ _____
3. ፆታ ተባዕታይ ____ ኣነስታይ_____ ድምር _____
4. ደረጃ ክፍሊ _____
5. ዓይነት ጉድኣት (ዓይነ-ስውር፣ትሑት ናይ ምርኣይ ክእለት) _____

<u>ሕቶታት ሓውሲ-ስሩዕ ቃለ-መሕትት</u>

1. ብዛዕባ ኣብ ቤት ትምህርትኻ ዘለካ/ኪ ልምዲ ትምህርቲ ብከመይ ተቐምጦ/ጢዮ?
2. ጉድኣት ዓይንኹም ኣብ ትምህርትኹም ዘሕድሮ ፅልዋ እንታይ ከም ዝኾነ'ዶ ተወሳኺ ሓበሬታ'ዶ ምሃብኩምኒ?
3. ኣብ መንነ ጉድኣት ዓይኒ ዘለዎም ተምሃሮ፣ ጉኣት ዓይኒ ዘይብሎም ተምሃሮን መምህራንን ዘሎ ርክብ ከመይ ትገልፅዎ? ኣብ ትምህርትኹም ዘሕድሮ ፅልዋ'ኺ እንታይ እዩ?
4. ጉኣት ዓይኒ ዘይብሎም ተምሃሮ፣ መምህራንን ማሕበረሰብ እቲ ቤት ትምህርትን ኣብ ጉድኣት ዓይኒ ዘለዎም ተምሃሮ ዘለዎም ኣመለኻኽታን ንስኹም ኣብኣም ዘለኩም ኣመለኻኽታን እንታይ ይመስል? ኣብ ትምህርትኹም ዘሕድሮ ፅልዋ'ኺ እንታይ እዩ?
5. መምህራንኩም ስትራተጅታት ኣመሃህራ ከም ዓርሰ ምምህሃር፣ብምትሕግጋዝ ምምሃርን ብምትሕብባር ምምሃርን ወይ ድማ ድጋፍ ውሃብቲ መሳርሕታት ንኽትጥቀሙ የበረታትዑኹም'ዶ? መምህራን ከመይ ከም ዝጥቀሙሎምከ መብራህርህኩምለይ'ዶ?
6. መምህራን ትምህርትኹም ብከመይ ይግምግሙ፤ እቲ ግምገማኽ ኣብ ትምህርትኹም ዘለዎ ፅልዋ እንታይ ይመስል?
7. ኣብ ቤት ትምህርትኹም ዘለዉ ሰብ ሞያ ኣብ ናውቲ ትምህርቲ ምድላውን ምስ ከባቢ እቲ ቤት ትምህርቲ ምፍላጥን ከመይ ከም ዝሕግዙኹም'ዶ መብራህራህኩምለይ?
8. ኣብ ሓቓፉይ ቤት ትምህርቲ ወይ ድማ ክፍሊ ኣብ እትማሃርሉ ጊዘ እንታይ ዓይነት መሰናኽላት የጋጥሙኹም፤እዞም ስዒቦም ዘለዉኽ ኣብ ናትኩም ምሕቓፍን ትምህርትኹምን ብከመይ ፅልዋ የሕድርልኩም?

ሀ) ማሕበራውን ባህላውን መሰናኽላት

ለ) ከባብያዊ መሰናኽላት

ሐ) ትምህርታዊ ዝኾኑ መሰናኽላት

መ) ዘለኒ ጉኣት ዓይኒ

9. ነዞም ፀገማት/መሰናኽላት ክፈትሑ ይኽእሉ እዮም እትብልዎም መፍትሕታትከ እንታይን እንትይን እዮም ትብሉ?

10. ኩነታት ሓቓፋይነት ቤት ትምህርትኹም ብሓፈሻን ተሓቃፋይነት ጉድኣት ዓይኒ ዘለዎም ተምሃሮ ብፍላይን ከመይ ትሪእዎ?

>>>

APPENDIX A2: FOCUS GROUP DISCUSSION GUIDE FOR SIGHTED LEARNERS

Background information

1. School name
2. Age
3. Gender Male / Female
4. Grade level

Semi-structured interview questions

1. Can you tell me about the interaction between visually-impaired learners and the sighted learners in your school/class?
2. What is the attitude of visually-impaired learners towards their sighted peers and teachers? Please explain.
3. Do you think you could benefit because of the presence of visually-impaired learners in your classroom? Why or why not?
4. Do teachers use different teaching strategies such as peer tutoring, cooperative learning, and collaborative teaching or encourage you to use assistive equipments in the classroom? If so, please explain on how they use them.
5. What is your view about the school and classroom environment and the accessibility of the facilities for learners with visual impairment?
6. How do you see the inclusivity of your school in general and the inclusion of visually-impaired learners in particular?
7. Do you have any other additional comments on how to improve the situation in your school in order to accommodate the learners with visual impairment?

Below is the translation of the questions to Tigrigna.

ንጉድኣት ዓይኒ ዘይብሉም ተምሃሮ ዝተዳለወ ናይ ጉጅለ መመያየጢ ውሃቢ ኣንፈት

ድሕረ ባይታ

1. ሽም ቤት ትምህርቲ _____
2. ዕድመ _____
3. ፆታ ተባዕታይ_____ ኣንስታይ_____ ድምር_____
4. ደረጃ ክፍሊ _____

ሕቶታት ሓውሲ-ስሩዕ ቃለ-መሕትት

1. ኣብ ቤት ትምህርትኹም ኣብ መንነ ጉድኣት ዓይኒ ዘለዎምን ጉኣት ዓይኒ ዘይብሎምን ተምሃሮ ዘሎ ርክብ ከመይ ትገልፅዎ?
2. ጉድኣት ዓይኒ ዘለዎም ተምሃሮ ኣባኹምን ኣብ መምህራንን ዘለዎም ኣመለኻኽታ እንታይ ከምዝመስል'ዶ ምገለፅኩምለይ?
3. ጉድኣት ዓይኒ ዘለዎም ተምሃሮ ኣብ ክፍልኹም ብምህላዎም እትርብሑ'ዶ ይመስለኩም? ንምንታይ?
4. መምህራንኩም ስትራተጅታት ኣመሃህራ ከም ዓርሰ ምምህሃር፣ብምትሕግጋዝ ምምሃርን ብምትሕብባር ምምሃርን ወይ ድማ ድጋፍ ውሃብቲ መሳርሕታት ንኽትጥቀሙ የበረታትዑኹም'ዶ? መምህራን ከመይ ከም ዝጥቀሙሉምከ መብራህርህኩምለይ'ዶ?
5. ንዓኹምን ንናይ ጉድኣት ዓይኒ ዘለዎም ተምሃሮን ትምህርቲ ናይ ቤት ትምህርትኹምን ክፍልኹምን ምቹውነትን ኣቕርቦት ናውቲ ትምህርትን ከመይ ትሪእዎ?
6. ኩነታት ሓቓፋይነት ቤት ትምህርትኹም ብሓፈሻን ተሓቃፋይነት ጉድኣት ዓይኒ ዘለዎም ተምሃሮ ብፍላይን ከመይ ትሪእዎ?
7. ጉድኣት ዓይኒ ዘለዎም ተምሃሮ ንኽሕቆፉ ኩነታት ቤት ትምህርትኹም ከመይ ክመሓየሽ ከምዘለዎ ተወሳኹ ርኢቶ'ዶ ኣለኩም?

APPENDIX A3: OBSERVATION GUIDE

Date:	
Observer:	
Name of school:	
School environment	
Location of the school	
The school ground	
Availability of facilities in the school	
Nature of staff and learners relationship in the school	
Overall situation of the school for the inclusion of visually-impaired learners	

Classroom environment	
Size of classroom	
Class size	
Availability of classroom facilities	
Sanitation and beauty of walls, floor, and furniture	
Appropriateness of furniture to learners with visual impairment	
Availability of assistive technologies and materials and their conditions	
Teacher activities	
Learner activities	
Seating arrangement	
Adaptations made by the teacher to visually-impaired learners	
Teaching methodology and strategy used by the teacher and their appropriateness	
Giving activities and their appropriateness to learners	
Clarity of instruction to activities	
Assessment techniques used	
Grouping	
Interaction between teacher-learner	

and learner-learner	
Overall classroom atmosphere and its condition for the inclusion of visually-impaired learners	

APPENDIX A4: INTERVIEW GUIDE FOR PRINCIPALS

Background information

1. Name of school
2. Gender
3. Age
4. Qualification
5. Years of service

Semi-structured interview questions

1. Can you tell me more about the way you perceive inclusive education in a general context and in your school context?
2. What kind of training have you received, if any, on managing and implementing inclusive education?
3. How comfortable and ready are you to accept visually-impaired learners at your school? Elaborate on the preparations that you make before and after visually-impaired learners are registered in your school?
4. Briefly explain what you know about the legal and policy issues of visually-impaired learners' right to education and whether your school has inclusion policy?
5. How do you evaluate teachers' qualifications and professional training in inclusive education and their attitude towards the inclusion program?
6. Can you tell me about the awareness training regarding inclusive education your school might have given and its effect on the school community?
7. What can you say about the cooperation of other professionals and the external support you get from organizations, if any, for the implementation of inclusive education and the inclusion of visually-impaired learners?
8. Can you briefly explain teacher-learner ratio and teachers training on handling large class size in inclusive classrooms?
9. Can you enlighten me on the availability of technologies, resources and support system that your school has? Please elaborate on how the school community's efficiently use these technologies to benefit visually-impaired learners?

10. In what ways does learners' visual impairment affect your provision of support such as instructional materials, assistive technologies and equipment?
11. What are the challenges that you face in implementing inclusive education in your school and how are the following barriers affecting visually-impaired learners' inclusion and learning?
    i, Social and cultural barriers
    ii, Environmental barriers
    iii, Academic barriers
    iv, Visual impairment itself
12. What measures do you and your school communities take to make visually-impaired learners feel safe and comfortable in your school?
13. Please explain the overall situation of your school for the inclusion of visually-impaired learners and state if any other additional idea you have.

APPENDIX A5: INTERVIEW GUIDE FOR TEACHERS

Background information

1. Name of school
2. Gender
3. Age
4. Qualification
5. Years of service
6. Field of specialisation
7. Grade level you teach (Grade 9, 10)
8. Type of visual impairment your learners have (blind, low vision)

Semi-structured interview questions

1. How do you perceive inclusive education and explain the advantages and disadvantages of teaching learners in inclusive classrooms?
2. What do you know about the legal and policy issues of visually-impaired learners' right to education?
3. In what ways do you believe visual impairment affects learners' physical, perceptual, language and cognitive, and social and emotional developments and their learning?
4. Can you tell me the effect of your previous teaching experience of visually-impaired learners and training you might have taken on your current teaching? Please explain the contents of the training.
5. Whom do you consult or collaborate with in teaching classrooms with visually-impaired learners? Do you consult parents?
6. What are the barriers you face to include visually-impaired learners in your classrooms and the strategies you use to address these barriers?
7. How do you assess visually-impaired learners' learning?
8. In what ways does learners' visual impairment affects your provision of support such as instructional materials, assistive technologies and equipment? Among the learners with different types of visual impairment, which type do you feel that are included or excluded in your classroom? Why do you say that?

9. What is the attitude of visually-impaired learners towards you and others? Please explain.
10. What kind of resources and support do you receive and are [Online]. Available at your school in order to teach visually-impaired learners in inclusive classrooms?
11. How do you see the inclusivity of your school in general and the inclusion of visually-impaired learners?
12. What solutions do you suggest to address the challenges teachers face in teaching classrooms with visually-impaired learners?
13. Do you have any other additional comments?

APPENDIX A6: QUESTIONNAIRE FOR TEACHERS

Part I. Background Information

1. Name of the school
2. Gender
3. Age
4. Qualification (e.g., MA/MSC, BA/BSC, Diploma, Certificate)
5. Field of specialization
6. Grade level you teach where visually-impaired learners are attending (Grade 9, 10)
7. Workload per week _____periods
8. Average number of learners in your class
9. Type of visual impairment your learners have in your class (blind, low vision)

Part II. Concepts of Inclusion

1. How do you understand the concept of inclusive education?
2. What do you think are the advantages of inclusive education for visually-impaired learners learning with their sighted peers?

Part III. Attitude of teachers towards inclusive education and visually-impaired learners

The below table has statements whether you strongly agree, agree, undecided, strongly disagree or disagree. Please put a tick (√) mark in front of each questions inside the boxes.

SA= Strongly Agree, A=Agree, UD=Undecided, SD, Strongly Disagree, D=Disagree

	Items	SA	A	UD	SD	D
1	Learners with visual impairment have the right to learn with their sighted peers.					
2	The following learners with different types of					

	visual impairment can be taught in an inclusive classroom 10.1. Blind 10.2 Low vision					
3	Teaching visually-impaired learners in inclusive classes does not waste my time.					
4	Teaching visually-impaired learners together with their sighted peers in regular classroom does not give me comfort.					
5	Educating visually-impaired learners in regular classrooms does not make any change to their learning.					
6	Educating visually-impaired learners in regular classroom enables them to develop social life, feeling of independence and self-confidence.					
7	Teachers are comfortable with visually-impaired learners in their classrooms.					
8	I firmly suggest that visually-impaired learners should not be educated in separate special classes.					

9. What are your reasons for the items you disagree and strongly disagree in the above table?
   Can you comment on how to overcome the problems?

Part IV. Support and resource

1. How do you rate the availability facilities in your school to implement inclusive education?
   A. Very high

B. High
C. Average
D. Very low
E. Low

2. Did you observe teachers facing problems teaching in inclusive classrooms?
   A. Yes B. No
3. If your answer to question number 2 is “Yes”, what do you think is/are the source(s) of the problem? If “No”, proceed to question number 4. (It is possible to circle more than one alternative)
   A. Large class size
   B. Lack of skills in selecting the variety of methods of teaching
   C. Lack of commitment
   D. Lack of mastery of the subject matter
4. Other(s) Do you consider having visually-impaired learners in your classroom is a burden?
   A. Yes B. No
5. If your answer to question number 4 is “Yes”, why do you think they are burden? If “No”, proceed to question number 6.
6. Do you give appropriate academic support for visually-impaired learners?
   A. Yes B. No
7. If your answer to question number 6 is “No”, what is/are your reason(s)? (It is possible to circle more than one alternative)
   A. Too many learners in a class
   B. Learners do not need support
   C. Both learners and teachers have no time
   D. Learners’ varied types of impairment
8. Other(s) If your answer to question number 6 is “Yes”, how do you support them?
9. Does the school principal support you to implement inclusive education at your school?
   A. Yes B. No
10. If your answer to question number 9 is “Yes”, how do you evaluate the contribution of the school principal in implementing inclusive education? If “No”, proceed to question 1 under Part V.

A. Very high
B. High
C. Average
D. Very low
E. Low

Part V. Professional Training

1. Have you gotten any training to become an inclusive classroom teacher?
   A. Yes B. No
2. If your answer to question 1 is “Yes”, for how long? If “No”, proceed to question number 1 under part VI.
   A. Less than a month
   B. One month
   C. Three months
   D. Six months
   E. More than six months
3. How do you evaluate the significance of the training to your teaching?
   A. Very high
   B. High
   C. Average
   D. Very low
   E. Low
4. Was your training related to the inclusive classroom set up you currently teach?
   A. Very much related
   B. Somehow related
   C. Not related

Part VI. Instructional materials

1. Do you believe that curricular materials such as syllabus, text books and teacher guide are conducive to implement inclusive education?
   A. Yes B. No
2. If your answer to question number 1 is “No”, why do you think they are obstacles? If “Yes”, proceed to question number 3.

3. How do you evaluate the availability of necessary instructional materials other than text books such as dictionaries, books, maps etc in your school?
    A. Very high
    B. High
    C. Average
    D. Very low
    E. Low
4. How satisfactory is the service provided by the school library if there is library?
    A. Very high
    B. High
    C. Average
    D. Very low
    E. Low
5. Do visually-impaired learners have access to assistive technologies such as Braille, auditory aids, and other aids?
    A. Yes B. No
6. If your answer to question number 5 is “Yes”, what is your ability to use the technologies so as to help your learners? If “No”, proceed to question 7.
    A. Very high
    B. High
    C. Average
    D. Very low
    E. Low
7. If your answer to question number 6 is “low” or “very low”, what is/are your reason/s that hinder/s you to use?
    A. Lack of training
    B. Lack of frequent use of the equipments
8. Other(s) How do you evaluate the contribution of your support the inclusion of visually-impaired learners in your classrooms?
    A. Very high
    B. High
    C. Average
    D. Very low

E. Low

Part VII. Teaching Strategies

1. Which teaching strategy do you commonly use in your classroom? (It is possible to circle more than one alternative)
   A. Cooperative learning
   B. Peer tutoring
   C. Collaborative teaching
2. Other (s) Why do you use the above selected teaching strategy?
3. How do you use the teaching strategy?
4. What challenges do you face when you apply the mentioned teaching strategy?
   Can you comment on how to address the problem (s) you could have faced in using the teaching strategy/ies?

Part VIII. Classroom Environment

The questions in the table below are related to classroom environment barriers to the inclusion of visually-impaired learners. Please put a tick (√) mark in front of each questions in the boxes.

	Items	**Yes**	**No**
1	Are chairs and desks designed with the consideration of visually-impaired learners' disability?		
2	Does the classroom have facilities such as sound, ventilation and light?		
3	Is the classroom well decorated and attractive?		
4	Can visually-impaired learners move easily in the classroom?		
5	Does the classroom have enough space for group work arrangement?		
6	Is electric socket accessible to use tape recorder and other		

	electronic devices?		
7	Do you give a chance to visually-impaired learners to explore the classroom and practice to move?		
8	Is the sitting position of the visually-impaired learners comfortable?		
9	Do sighted learners assist visually-impaired learners in directing and describing new classroom arrangements?		

10. What other challenges do visually-impaired learners face in relation to the physical learning environment?

Can you comment on how to overcome the problems?

Part IX. Curriculum

1. Do you believe that the school curriculum is designed according to the learners' needs?
   A. Yes B. No
2. If your answer to question number 1 is "No", why? If "Yes", proceed to question number
3. Do you adapt the curriculum in order to include visually-impaired learners in your classes?
   A. Yes B. No
4. If your answer to question number 3 is "Yes" or "No", why?

Part X. Assessment

1. What type of assessment do you use in assessing visually-impaired learners?
   A. Criterion-referenced
   B. Norm-referenced
2. How do you asses visually-impaired learners' learning? Please elaborate.
3. Which one of the following barriers do you think is most affecting visually-impaired learners learning in inclusive classrooms?
   A. Social and cultural barriers

B. Academic barriers
C. Environmental barriers
D. The impairment itself

4. What do you recommend to alleviate barriers to the inclusion of visually-impaired learners?

APPENDIX A7: A COVERING LETTER FOR A QUESTIONNAIRE

Dear respondent,

This questionnaire forms part of my doctoral research entitled: “The inclusion of visually-impaired learners in Ethiopian secondary schools” for the degree of DEd at the University of South Africa. You have been selected by a purposive sampling strategy from the population of 177. Hence, I invite you to take part in this survey.

The aim of this study is to investigate the inclusion of visually-impaired learners in your school. The findings of the study will benefit schools, teachers, learners and curriculum developers.

You are kindly requested to complete this survey questionnaire comprising 10 sections as honestly and frankly as possible and according to your personal views and experience. No foreseeable risks are associated with the completion of the questionnaire which is for research purposes only. The questionnaire will take approximately 45 minutes to complete.

You are not required to indicate your name or organisation and your anonymity will be ensured; however, indication of your age, gender, occupation position etcetera will contribute to a more comprehensive analysis. All information obtained from this questionnaire will be used for research purposes only and will remain confidential. Your participation in this survey is voluntary and you have the right to omit any question if so desired, or to withdraw from answering this survey without penalty at any stage. After the completion of the study, an electronic summary of the findings of the research will be made available to you on request.

Permission to undertake this survey has been granted by ……. Secondary and Preparatory School and …….. General Secondary School and the Ethics Committee of the College of Education, UNISA. If you have any research-related enquiries, they can be addressed directly to me. My contact details are: +251923187357, e-mail: khn200031@gmail.com.

By completing the questionnaire, you imply that you have agreed to participate in this research. Please return the completed questionnaire to the researcher before July 20, 2015.

Yours sincerely

Kahsay Hailu Negash

Doctoral Student

APPENDIX B1: REQUEST FOR PERMISSION TO FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA (FDRE), MINISTRY OF EDUCATION TO CONDUCT RESEARCH AT SECONDARY SCHOOLS

24/05/2015

Title: The Inclusion of Visually-impaired Learners in Ethiopian Secondary Schools

The FDRE Ministry of Education

State Minister

Ethiopia

Dear Mr Fuad,

I, Kahsay Hailu Negash, am doing DEd degree at the University of South Africa. I am requesting permission to conduct research in a study entitled “The Inclusion of Visually-impaired Learners in Ethiopian Secondary Schools” in the following schools: ……. Secondary and Preparatory School and ……... General Secondary School.

The aim of the study is to investigate the inclusion of visually-impaired learners in Ethiopian secondary schools particularly in Tigray Regional State.

The study will entail school principals, teachers and learners as participants. It will also include two schools. The research will employ three main types of research instruments namely interview, observation and focus group discussion. It will also include questionnaire administration to supplement data that were collected by the three instruments. The data collection process will be done according to consent with the participants and data collected will be confidential. The participants are expected to participate on voluntary bases and they can withdraw at any stage during the research.

The benefits of this study are twofold. The practical significance of this study is that while curriculum developers can take the findings of the study as an input, teachers can also modify their teaching methodologies and strategies for teaching inclusive classrooms. The theoretical significance of this study is that the knowledge gained by this research from the particular context will contribute to the global knowledge of inclusion.

Potential risk is the discomfort it may cause on visually-impaired learners. If this discomfort is experienced, I will stop immediately and give them time to recuperate. I will check with them if it is alright to continue. If they feel that it is too difficult, I will permanently stop the interviews and call for professional help.

Feedback procedure will entail sharing the findings of this study with all the participants and other stakeholders. A report of the major findings and recommendation will be given to the principals, teachers, learners and all the interest groups.

Yours sincerely
Kahsay Hailu Negash
Doctoral Student

APPENDIX B2: A LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH AT SELECTED SCHOOLS

24/04/2015

Title: The Inclusion of Visually-impaired Learners in Ethiopian Secondary Schools

Dear School Principal

I, Kahsay Hailu Negash, am doing DEd degree at the University of South Africa. I am requesting permission to conduct a research in your school. The title of my study is "The inclusion of visually-impaired learners in Ethiopian secondary schools". The aim of the study is to investigate the inclusion of visually-impaired learners in Ethiopian secondary schools particularly in Tigray Regional State.

Your institution has been selected because it is implementing Inclusive Education whereby visually-impaired learners and sighted learners are learning in the same classroom. Therefore, I am requesting you, some selected teachers and learners of the school to participate in the study. This study is a case study research which takes your school as one of the two cases. The research will employ three main types of research instruments namely interview, observation and focus group discussion. It will also include questionnaire administration to supplement data that were collected by the three instruments. The data collection process will be done according to consent with the participants and data collected will be confidential. The participants are expected to participate on voluntary bases and they can withdraw at any stage during the research.

The benefits of this study are twofold. The practical significance of this study is that while curriculum developers can take the findings of the study as an input, teachers can also modify their teaching methodologies and strategies for teaching inclusive classrooms. The theoretical significance of this study is that the knowledge gained by this research from the particular context will contribute to the global knowledge of inclusion.

Potential risk is the discomfort it may cause on visually-impaired learners. If this discomfort is experienced, I will stop immediately and give them time to recuperate. I

will check with them if it is alright to continue. If they feel that it is too difficult, I will permanently stop the interviews and call for professional help.

The findings of this study will be shared with all the participants and other stakeholders. A report of the major findings and recommendation will be given to the principals, teachers, learners and all the interest groups.

Yours sincerely
Kahsay Hailu Negash
Doctoral Student

APPENDIX B3: PERMISSION LETTERS TO DO RESEARCH IN SCHOOLS

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ሓፈሻዊ 2ይ ብርኪ ቤትትምህርቲ
Mekelle city
Adi haki sub city
Comprehensive secondary school

Referance ብርኪ/421/35

Date 27/05/2015

To: Kahsay Negash

Subject: PERMISSION TO DA RESEARCH AT COMPREHENSIVE SECONDARY SCHOOL

You request to do research at comprehencive secondary school has been granted. You can start condacting your research from the day you recive this permission letter. Please cooprate with the school with regards to your needs.

With best redards.

ቁ-2/2223/35

Date: 27/05/2015

To: Kahsay Hailu Negash

Subject: PERMISSION TO DO RESEARCH AT SECONDARY AND PREPARATORY SCHOOL.

Your request to do research at secondary and preparatory school has been granted. You can start conducting your research from the day you receive this permission letter. Please cooperate with the school with regards to your needs.

With best regards,

APPENDIX C1: LETTER REQUESTING AN ADULT TO PARTICIPATE IN AN INTERVIEW

Dear Interviewee,

This letter is an invitation to consider participating in a study I, Kahsay Hailu Negash, am conducting as part of my research as a doctoral student entitled “The inclusion of visually-impaired learners in Ethiopian secondary schools” at the University of South Africa. Permission for the study has been given by the school principal and the Ethics Committee of the College of Education, UNISA. I have purposefully identified you as a possible participant because of your valuable experience and expertise related to my research topic.

I would like to provide you with more information about this project and what your involvement would entail if you should agree to take part. The importance of inclusion in education is substantial and well documented. Inclusion is not including learners to classroom with disabilities or abilities in a school or making them fit to the school but it is about creating an inclusive school system which fits learners with diverse backgrounds. This research will investigate the inclusion of visually-impaired learners in your school. Conducting this research will have two significances. First, it can be used by curriculum developers as a source of information. Teachers can also use it as an input for their in teaching inclusive classrooms. Second, the knowledge gained by this research from the particular context will contribute to the global knowledge of inclusion. In this interview I would like to have your views and opinions on this topic. This information can be used to improve the inclusion of visually-impaired learners in your schools.

Your participation in this study is voluntary. It will involve an interview of approximately 45 minutes in length to take place in a mutually agreed upon location at a time convenient to you. You may decline to answer any of the interview questions if you so wish. Furthermore, you may decide to withdraw from this study at any time without any negative consequences.

With your kind permission, the interview will be audio-recorded to facilitate collection of accurate information and later transcribed for analysis. Shortly after the transcription has been completed, I will send you a copy of the transcript to give you

an opportunity to confirm the accuracy of our conversation and to add or to clarify any points. All information you provide is considered completely confidential. Your name will not appear in any publication resulting from this study and any identifying information will be omitted from the report. However, with your permission, anonymous quotations may be used. Data collected during this study will be retained on a password protected computer for 5 years in my locked office. There are no known or anticipated risks to you as a participant in this study.

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please contact me at +251923187357 or by e-mail at khn200031@gmail.com.

I look forward to speaking with you very much and thank you in advance for your assistance in this project. If you accept my invitation to participate, I will request you to sign the consent form which follows on the next page.

Yours sincerely

Kahsay Hailu Negash

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CONSENT FORM

I have read the information presented in the information letter about the study "The Inclusion of Visually-impaired Learners in Ethiopian Secondary Schools" in education. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and add any additional details I wanted. I am aware that I have the option of allowing my interview to be audio recorded to ensure an accurate recording of my responses. I am also aware that excerpts from the interview may be included in publications to come from this research, with the understanding that the quotations will be anonymous. I was informed that I may withdraw my consent at any time without penalty by advising the researcher. With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

Participant's Name (Please print):
Participant Signature:

Researcher Name: (Please print)

Researcher Signature:

Date:

APPENDIX C2: A LETTER REQUESTING PARENTAL CONSENT FOR PARTICIPATION OF A MINOR IN A RESEARCH PROJECT

Dear Parent

Your son/daughter/child is invited to participate in a study entitled “The inclusion of Visually-impaired Learners in Ethiopian Secondary Schools”. I am undertaking this study as part of my doctoral research at the University of South Africa. The purpose of the study is to investigate the inclusion of visually-impaired learners in the selected schools in Ethiopia. I am asking permission to include your child in this study because he/she fits the research participant requirements for this research. I expect to have 23 other children participating in the study.

If you allow your child to participate, I shall request him/her to take part in a group interview.

Any information that is obtained in connection with this study that can be identified with your child will remain confidential and will only be disclosed with your permission. His or her responses will not be linked to his or her name or your name or the school’s name in any written or verbal report based on this study. Such a report will be used for research purposes only.

There are no foreseeable risks to your child by participating in the study. Your child will receive no direct benefit from participating in the study; however, the possible benefits to education are while curriculum developers can take the findings of the study as an input, teachers can also modify their teaching methodologies and strategies for teaching your child in inclusive classrooms. Neither your child nor you will receive any type of payment for participating in this study. Your child’s participation in this study is voluntary. Your child may decline to participate or to withdraw from participation at any time. Withdrawal or refusal to participate will not affect him/her in any way. Similarly you can agree to allow your child to be in the study now and change your mind later without any penalty.

The study will take place during regular classroom activities with the prior approval of the school and your child’s teacher. However, if you do not want your child to participate, an alternative activity will be available.

In addition to your permission, your child must agree to participate in the study and you and your child will also be asked to sign the assent form which accompanies this letter. If your child does not wish to participate in the study, he or she will not be included and there will be no penalty. The information gathered from the study and your child's participation in the study will be stored securely on a password locked computer in my locked office for five years after the study. Thereafter, records will be erased.

If you have questions about this study do not hesitate to contact me. My contact number is +251923187357 and my e-mail is khn200031@gmail.com. Permission for the study has already been given by your child's school and the Ethics Committee of the College of Education, UNISA.

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him or her to participate in the study. You may keep a copy of this letter.

Name of child: _____
Parent/guardian's name (print):_____
Parent/guardian's signature: _____
Date: _____
Researcher's name (print) :
Researcher's signature:
Date:

APPENDIX C3: A LETTER REQUESTING ASSENT FROM LEARNERS TO PARTICIPATE IN A RESEARCH PROJECT

Title of study: The Inclusion of Visually-impaired Learners in Ethiopian Secondary Schools

Dear Learner,

I am doing a study on “The inclusion of visually-impaired learners in Ethiopian secondary schools” as part of my studies at the University of South Africa. Your principal has given me permission to do this study in your school. I would like to invite you to be a very special part of my study. I am doing this study so that I can find ways that can help your school and teachers to include visually-impaired learners in the school teaching and learning process better. This will help you and many other learners of your age in different schools.

This letter is to explain to you what I would like you to do. There may be some words you do not know in this letter. You may ask me or any other adult to explain any of these words that you do not know or understand. You may take a copy of this letter home to think about my invitation and talk to your parents about this before you decide if you want to be in this study.

I will interview you in a focus group discussion with a focus on the inclusion of visually-impaired learners in your school. The interview will be face-to-face. The interview will take an hour. With your permission, I may audio-record the interview. The information you will share to me will be kept confidential.

I will write a report on the study but I will not use your name in the report or say anything that will let other people know who you are. You do not have to be part of this study if you don’t want to take part. If you choose to be in the study, you may stop taking part at any time. You may tell me if you do not wish to answer any of my questions. No one will blame or criticise you. When I am finished with my study, I shall return to your school to give a short talk about some of the helpful and interesting things I found in my study. I shall invite you to come and listen to my talk.

If you decide to be part of my study, you will be asked to sign the form on the next page. If you have any other questions about this study, you can talk to me or you can

have your parent or another adult call me at +251923187357. Do not sign the form until you have all your questions answered and understand what I would like you to do.

Researcher: Kahsay Hailu Negash Phone number: +251923187357

Do not sign written assent form if you have any questions. Ask your questions first and ensure that someone answers those questions.

WRITTEN ASSENT

I have read this letter which asks me to be part of a study at my school. I have understood the information about my study and I know what I will be asked to do. I am willing to be in the study.

Learner's name (print): _____
Learner's signature: _____
Date: _____
Witness's name (print): _____
Witness's signature: _____
Date: _____
(The witness is over 18 years old and present when signed.)
Parent/guardian's name (print): _____
Parent/guardian's signature: _____
Date: _____
Researcher's name (print):
Researcher's signature:
Date:

APPENDIX D: ETHICAL CLEARANCE CERTIFICATE

UNISA university of south africa

COLLEGE OF EDUCATION RESEARCH ETHICS REVIEW COMMITTEE

13 May 2015

Ref#: 2015/05/13/53342135/26/MC
Student #:Mr KH Negash
Student Number#:53342135

Dear Mr Negash,

Decision: Approved

Researcher
Mr KH Negash
Tel: +25 192 318 7357
Khn200031@gmail.com

Supervisor
Prof VG Gasa
Department of Inclusive of Education
College of Education
Tel: +27 12 429 4470
gasavg@unisa.ac.za

COLLEGE OF EDUCATION
2015 -05- 22
Office of the Executive Dean

Proposal: The inclusion of visually impaired learners in Ethiopian secondary schools

Qualification: D Ed in Inclusive Education

Thank you for the application for research ethics clearance by the College of Education Research Ethics Review Committee for the above mentioned research. Final approval is granted for 2 years.

For full approval: *The application was reviewed in compliance with the Unisa Policy on Research Ethics by the CEDU ERC on 13 April 2015.*

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the College of Education Ethics Review Committee. An amended application could be requested if there are substantial changes from the*

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za