



**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF EDUCATION AND BEHAVIORAL STUDIES**  
**DEPARTMENT OF SPECIAL NEEDS EDUCATION**

**EDUCATION OF PUPIL WITH LOW VISION: ASSESSMENT, CHALLENGES AND  
OPPORTUNITIES; A CASE OF SEBETA SPECIAL SCHOOL FOR THE BLIND**

**BY:**

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**ADDIS ABABA, ETHIOPIA**

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## **Acronyms**

**AFB:** American Foundation for the Blind

**AFVAT:** Adapted Functional Vision Assessment Tool

**EFA:** Education for All

**ECDD:** Ethiopian Center for Disability and Development

**UNECA:** United Nations Economic Commission for Africa

**ESNEPA:** Ethiopian Special Needs Education Professional Association

**FVAT:** Functional Vision Assessment Tool

**LMA:** Learning Media Assessment

**LSNE:** Learners with Special Needs Education

**MDG:** Millennium Development Goals

**MoE:** Ministry of Education

**OEB:** Oromya Educational Bureau

**O & M:** Orientation and Mobility

**PE:** Physical Education

**PWLV:** Pupil with Low Vision

**SNE:** Special Needs Education

**SSSB:** Sebeta Special School for the Blind

**UNESCO:** United Nations Educational, Science and cultural Organization

**VI:** Visual impairment

**WHO:** World Health Organization

## **Abstract**

*The purpose of this study was to identify pupils with low vision and assess their educational challenges and opportunities at Sebeta Special School for the Blind, Oromiya Regional State. A mixed research approach was employed. A total of 50 individuals (30 pupils with low vision, 15 teachers, 2 school principals and 3 Special Needs Experts) were participated. Simple random, purposive, and available sampling techniques were used. Functional Vision Assessment Test supplemented by Teacher Nomination, Questionnaire, Semi-structured interview, Observation checklist and Focus Group Discussions were employed to generate reliable and robust data. The data were analyzed quantitatively as well as qualitatively through descriptive statistics and thematic analysis techniques respectively. The findings indicated that there were a considerable number of pupils with low vision in the school. And they were entangled with diversified educational challenges. Among others, absence of functional vision assessment, and ignorance of the school towards their specific needs took the lion share and were the major bottlenecks these pupils face. Presence of well organized resource-room and itinerant teacher were opportunities identified. Consequently, some practical recommendations were forwarded.*

# CHAPTER ONE

## 1. Introduction

### 1.1 Background of the Study

Vision provides a wealth of context for learning and interpreting information as well as it plays an important role in day to day activities. Vision impairment often leads to a lack of context and impedes the development of cognitive skills (Gothwal, Lovie-Kitchin and Nutheti, 2003). In addition to this, children with limited vision, have fewer opportunities to explore their world. Usually, people with visual impairments are routinely face significant challenges in their daily lives such as recognizing objects and people, mobility, reading difficulties, effective socialization and taking care of their daily living skills.

Vision problems take many forms, with widely varying implications for a child's development and academic performance. Such problems range from relatively minor and remediable conditions to total blindness. The time of onset also varies and plays a major role in the child's ability to adapt socially and psychologically, as well as to achieve academic success (Wilson, 2003).

Many aspects of child development depend on their vision. Thus, a child with vision impairment will face physical and mental developmental challenges through his/her life. Farrell (1990) also indicated that visual impairment will affect child's social, emotional, language, cognitive development, mobility and orientation. The combination of all these effects has an impact on the functioning and learning potential of a child with visual impairment. Therefore, unless these challenges are ameliorated through education-based interventions, the outcome of the child's education will be at risk. IDEA (2004) as cited in Vaughn, Bos and Schumm (2011) also stated

that visual impairment adversely affects a child's educational performance. This term includes both blindness and low vision. Low vision is generally defined as a vision loss that cannot be corrected with available spectacles, contact lenses, medications or surgeries.

Numerous definitions have been stipulated for the term low vision. The conceptualization varies from country to country and from one field to another. This implies that there is no single definition of low vision that makes all agreed. However, the following educational /functional definitions given by Corn & Koenig (2000) as cited in Friend (2010:267) are most often used in schools.

*Pupil with Low vision refers to a person who has some vision but has difficulty accomplishing typical visual tasks. Using compensatory strategies, technologies, and environmental modifications, these individuals can enhance their ability to accomplish these tasks. These pupils just described as having moderate to severe visual impairment have low vision. Even though, pupils with low vision (PWLV) have difficulty to accomplish typical visual tasks, they have some vision and can learn through visual sense with specialized technologies and adapted teaching materials.*

Pupils with low vision (PWLV) have difficulty to accomplish typical visual tasks; they have some vision and can learn through visual senses with specialized technologies and adapted teaching methods and materials. Accordingly, the major educational distinction is that children who are blind use their tactile or auditory senses as their primary learning channels whereas, children with low vision have residual vision so they can still use the visual senses as their major avenue of learning (Kirk, Gallagher, Coleman and Anastasiow, (1995). Similarly,

Huebner,(2000) as cited in Friend (2010) stated that pupils that are often described as having moderate to severe visual impairments have residual vision which they can use for learning purposes through the application of compensatory strategies, technologies ,as well as environmental modifications.

Saliva, Ysseldyke and Bolt (2010) stated that education is intended to provide all students with the skills and competencies they need to enhance their lives and their fellow citizens. However, learning is easier for some but not for others. With parental or institutional help, some are able to achieve a solid grasp of much of the first-grade curriculum even before they enter school; whereas, others need extra help to learn the same material. Many have appropriate school behaviors, and others do not. Students attending schools today are much more diverse in groups than in the past. Low vision is one of the diversities to which school systems need to respond. In this regard Howley and Rose (2007) stated that pupils with low vision have special educational needs specifically to use their vision. Furthermore, the educational needs of pupils with low vision vary depending on the age of onset, severity level, and the current age. The available remedial services and interventions should also vary to accommodate these varying needs, interests and preferences.

Pupils with low vision also have unique learning needs and require access to specialized services (Kircher & Diamant, 1999). For instance, magnification, specialized lighting, material positioning devices, audio support, portable reading devices, large key calculators, large print or magnified screen, high contrast, brightly colored wall, furniture should be available.

The World Health Organization has posited that children with low vision are in a more difficult position because they are not blind enough to be entitled to rehabilitation and social

services albeit they are not well sighted enough to live a full life- a life commensurate with that of the population with normal visual functions (WHO, 1992). A similar observation was also made by Keeffe & O'connor (2007) low vision is a much misunderstood condition, and that many misconceptions are there about it. Families, health Professionals, councillors, policy makers, society in general, and most importantly the people with low vision themselves have deep rooted misconception on the issue. Moreover, educators of those children may ignore the use of residual vision for learning in schools.

According to Scholl (1986) and Warren (1994) the education of children with low vision was initially based on the principle of *sight saving*. The premise behind this principle is that, the use of residual vision leads to a total loss. As a result, education was entailed little or no reading or other visual tasks for PWLV by teachers. Thankfully, however, there has been an increasing of attention paid to the enhancements of the use of available residual vision among children with visual impairment during the past few years.

Historically, the first school for the blind was opened in Paris in 1784 by Valentin Haüy. The first school for the children with low vision started service in 1908 at an elementary school in London Borough of Camberwell (Mason & McCall, 1997). In Ethiopia, Special Schools for the blind was opened in nearly a century ago. The education of children with visual impairment started after the beginning of modern education. Hence, the first modern special school was established in 1917 E.C by protestant church followers for children with visual impairments at Dembi Dollo town which was discontinued due to the Italian invention. After that, a school for children with blindness was established in 1936 E.C around Kazanchis area by Haile Selassie Charity Organization, which was transferred to Sebeta where a boarding school for the blind was established in 1957 E.C. This school is still giving educational services for children with visual

impairment (MoE, 2012). However, there are no records or data concerning students with low vision and their educational experiences remain loosely studied.

## **1.2 Statement of the Problem**

Pupils with low vision have unique learning needs. In order to meet these specific educational needs, it is vital to recognize the presence and educational needs of PWLV. It has been reported that approximately 90% of individuals with visual impairments are with low vision and that just 10% are totally blind (AFB, 2006). Corn and Koenig (1996), Best (1992) and Davis (2003) also stated that between 75%-80% school age children with visual impairment who have some useful vision are enrolled in special school for the blind. However, in many parts of the world, these children are often overlooked. The difficulties these pupils encounter are often not as apparent as they are for pupils who are blind and rarely encouraged to develop the use of their remaining vision and their existence is often ignored by educational staff.

This is true in Sebeta Special School for the Blind as well. This is also confirmed during the researcher's preliminary observation of the school. Moreover, informal discussion was held with the school teachers about the educational provision of PWLV and information was gathered. Accordingly, they proved that the school is not responsive to the educational needs of these pupils and often PWLV are treated as if they are totally blind. As to the knowledge of the researcher so far, there is scarcity of research works on the educational provision and identification of pupil with low vision particularly in Ethiopian context and the available studies are mainly inclined investigating educational conditions of pupil with total blindness. However, there are very few studies on education of PWLV in Ethiopia. For instance, Reta

(2007) conducted his research comparing the educational services for pupil with low vision at Sebeta and Shashemene Schools for the blind. His finding was that the education of pupil with low vision was not based on the needs of pupil with low vision. Nevertheless, his research attempt lacks detail investigation on the educational challenges as well as opportunities of PWLV. In addition, he did not use any assessment technique and procedure to identify PWLV.

These actually inspired the researcher to closely examine the issue under investigation. Thus, with the aim of bridging the gap, this study aimed at investigating the educational challenges and opportunities of students with low vision at Sebeta School for the Blind.

### **Research Questions**

The study was conducted at Sebeta School for the Blind in Sebeta town. The study, more specifically tried to find answers to the following basic research questions.

- ❖ What is the prevalence of pupil with low vision at SSSB from grade 5 to 8?
- ❖ What are the challenges to provide appropriate educational services for pupils with low vision at SSSB from grade 5 to 8?
- ❖ What opportunities exist to provide appropriate educational services for pupils with low vision at SSSB from grade 5 to 8?
- ❖ What are the possible pathways for providing suitable remedies that improve educational service to PWLV at SSSB from grade 5 to 8?

### **1.3 Objectives of the Study**

The study had the following general and specific objectives

### **1.3.3 General Objective**

The main objective of the study was to identify students with low vision at Sebeta Special School for the Blind and critically examine their educational challenges and opportunities.

### **1.3.2 Specific Objectives**

- ❖ To identify PWLV at Sebeta Special School for the Blind from grade 5 to 8,
- ❖ To examine educational challenges PWLV faced at SSSB for the Blind from grade 5 to 8,
- ❖ To explore the possible opportunities available in the school to provide appropriate educational services, and
- ❖ To suggest possible solutions that could help improving the situation

### **1.4 Significance of the Study**

Pupil with visual impairment in general and PWLV in particular at Sebeta Special School for the Blind faces serious educational challenges. Therefore, this study is believed to be important by suggesting data-supported recommendations for the school to take appropriate educational intervention. This would improve service delivery for PWLV and may bring changes in creating a welcoming environment. It is also hoped that based on the result of this study, Sebeta Special School for the blind will work diligently to provide suitable educational services.

It is also believed that the result of this research would help identify PWLV and bring to the surface the educational challenges faced by PWLV, as well as identifying the existing opportunities. It is there by suggests possible recommendations to provide appropriate educational services for the aforementioned pupils. By conducting an intensive survey of

available literature and generating in-depth data, the study strives to elucidate educational challenges and opportunities of pupils with low vision. Hence, the study would help bridge the knowledge gap practices in the education of PWLV. More specifically, the study has the following contributions to the provision of better educational services for pupil with low vision:

- ❖ It would create awareness about the unique educational needs of pupil with low vision,
- ❖ It would show possible ways to help pupil with low vision get appropriate educational service,
- ❖ It would give information for teachers, the school and stakeholders about educational challenges and opportunities of PWLV,
- ❖ It would shed light on the education of students with low vision for concerned bodies to give due attention, and
- ❖ It would also serve as a baseline study for further in-depth study on the subject of low vision and its attendant educational challenges and opportunities

### **1.5 Delimitation of the Study**

The concept of pupil with visual impairment is broad. It includes a number of specific components. To achieve manageability of concepts, this study was delimited to pupils with low vision who have sufficient residual vision to be educated in print using special techniques and methods. In particular, exclusive focus would be placed on grade 5, 6, 7 and 8 pupils who are currently attending at Sebeta Special School for the Blind. The choice of one school is partly due to the limitation of resource and time constraints. It is also narrow

in focus as it deals with identification, educational challenges as well as opportunities of pupil with low vision at this particular School. Due to the above stated constraints, certain aspects of the issues which are not related to education of pupil with low vision are excluded.

## **1.6 Limitation**

This study has got some limitations. Lack of adequate reference materials, absence of functional vision assessment tools which are developed or adapted to Ethiopian situations for identification of PWLV and lack of literature related to education of PWLV particularly in local contexts were some of the limitations.

## **1.7 Definitions of Terms**

**Functional vision assessment:** a procedure used to determine how well a student see and how well he uses his vision in a wide variety of educational and daily tasks(Holbrook & Koenig,2006).

**Functional vision;** refers to the ability of a pupil to use vision to perform visual tasks (Smith, 2010)

**Pupil with low vision:** a person who have Vision that is impaired, but sufficient to read print with or without magnification (Holbrook & Koenig, 2006).

**Residual vision:** Amount of vision that a person has left (Webster and Roe1998).

**Visual impairment:** Visual impairment means impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes blindness and low vision (Holbrook & Koenig, 2006).

## CHAPTER TWO

### 2. Review of Related Literature

#### 2.1 The Concept of Low Vision

Unlike other disabilities covered by the Individuals with Disabilities Education Act (IDEA), visual impairment has both legal and educational definitions. The legal definition is based on visual acuity and field of vision whereas the educational definition is depending on the use of residual vision as a primary sense for learning (Saliva, Ysseldyke and Bolt, 2010).

Friend (2010) stated that the medical definition of visual impairment has little implication for educational definition, practical functioning, educational placement and medium of instruction. And it is not very useful for describing what a person can or cannot do. Because of this, the legal definition of visual impairment often lacks meaning for educators. Instead, teachers are primarily concerned with assessing and developing a child's functional residual vision.

Additionally, many students who are legally blind are not considered educationally blind. The interpretation is also quite different for educational purposes (Dickinson, 1998). As the result of this, the researcher took the educational (functional) definition of visual impairment. According to Individuals with Disabilities Education Act (IDEA) (2004 ) as cited in Hallahan, Kauffman and Pullen, (2012), "visual impairment means an impairment of vision that, even with correction, adversely affects child's educational performance .The term includes both low vision and blindness".

Low vision is generally defined as a vision loss that cannot be corrected with available spectacles and contact lenses (Dickinson, 1998). It negatively affects a person's normal daily living activities. In children, it has strong impact on the child's education, social life and school activities. And there have been numerous definitions of low vision which vary from country to country and between one study and another (Kantha, 2010). Below are reviews of some of the common definitions of low vision.

Corn and Koenig (1996) defined a person with low vision as someone who has a difficulty accomplishing visual tasks even with prescribed corrective lenses but who can enhance his/her ability to accomplish these tasks with the use of compensatory visual strategies, low vision aids and environmental modifications.

Mastropieri and Scruggs (2010) also stated that, low vision considers the ability or degree of a person to use visual ability. Educationally, a student with low vision is the one who has some vision, and they can read enlarged prints. The educational definition of low vision generally defined it as a vision loss that cannot be corrected with available spectacles, contact lenses, medications or surgeries and it can negatively affects a person's normal daily living activities and educational performance (Dickinson, 1998).

However, educational /functional definitions are most often used in schools .This definition implies that person with low vision has enough visual ability for learning. But they need some kinds of adaptation and modifications.

## **2.2 Prevalence of Low Vision**

There are many low vision and blind people worldwide and there are a considerable number of data available on the prevalence of low vision and blindness in many parts of the world. The data however vary significantly from one continent to another.

According to the World Health Organization (WHO, 1992), there are more than 161 million people with visual impairment in the world of which 37 million are blind and 124 million are low vision. This estimation was done by dividing the world into six different regions. Webster and Roe (1998) also stated that the large groups of visual impairment are people who have low vision and they have useful remaining vision. Visual impairment is recognized as one of the major public health problems worldwide especially in developing countries.(World Health Organization,2004). By 2020, the WHO estimates that the number of people who are blind or low vision will double from 180 million to 360 million. Similarly, AFB (2013) asserted that, the majority of persons with visual impairment are in developing countries with 75% of world visual impairment occurring in Asia and Africa. Because of the lack of proper eye care facilities, their number is increasing at an alarming rate. Hence, people in developing countries are 10 times more likely to go blind than those who live in industrialized countries. Similarly, in Africa, it is estimated that the prevalence of low vision is 10 times higher than in the industrialized countries.

According to the Ethiopian Ministry of Health (MoH, 2007), Ethiopia is believed to have one of the world's highest rates of low vision which is 3.7 % from the total and it is major public health problem. Tirrussew (2005) also stated that 30.5 % of disabilities in Ethiopia are person with visual impairment. Generally, studies indicated a very high prevalence of low vision in the country. In other words, there are a large number of people whose vision are between near

normal and blindness which can be termed as “Low Vision”. However, in Ethiopia, there is no recent data on the prevalence of specific impairment. The same is true for school age children with low vision who do not undergo educational assessment (UNESCO, 2009).

Ethiopia has one of the highest prevalence rates of visual impairment in the world. The national blindness survey which was conducted in 2006 revealed that the prevalence of blindness in the country was 1.6%. There are about 1.2 million blind people in the country which means that Ethiopia alone contributes for 2.7% of the total blindness worldwide. The prevalence of low vision (presenting vision less than 6/18 but equal to or better than 3/60 in the better eye) is also high at 3.7% (Saliva et al. 2010).

Similarly, ORBIS Ethiopia (2011) also stated that, in Ethiopia, approximately 1.2 million people are blind and more than 2.8 million have low vision. Ethiopia is especially impacted by a high prevalence of trachoma—a highly contagious but completely preventable eye disease that can result in blindness after years of repeated infection which indicated greater prevalence of person with low vision than the blind once

### **2.3 Causes of Low Vision**

The cause of low vision is due to general loss of visual acuity and clarity of vision, reduction in the field of vision- either central or peripheral. Low vision is usually related to conditions in the retina, lens or optic nerve. In the population of pupil with visual impairment, there are those who are deemed totally blind, those who are ‘legally’ blind, and those with varying degrees of low vision often referred to as partial sight. It is interesting to note that at least 80 per cent of persons classified as medically blind do have some remaining sights (Best, 1992; Davis, 2003).

Generally, although the causes of low vision in children vary between different regions in the world, it can be caused either by congenital or acquired. However, some studies (WHO, 2007) suggested that low vision in children is mostly caused by congenital or hereditary.

#### **2.4 The Impact of Low Vision on Children**

Vision is the most important component of communication in children during the whole pre-school and school time and incidental learning (learning through visual experience) is an underestimated part of development in children (Hyvärinen , 2003). When the children have low vision, the impact often starts from birth and they may have less exposure to incidental learning than their fully sighted. Low vision in children has social, environmental, behavioural and educational implications. Mason and McCall (1997) stated that, low vision in some children could be the cause for misbehaviour of a child. However, this condition is aggravated by with those who work with them. It can be due to their environment and teachers, peers, or other things but not their limited visual ability. This may have adverse effect on the educational journey of these children.

Visual communication becomes difficult and it makes social interaction complex .Children with low vision are not sensitive to environmental aspects such as colour, contrast, glare and space that can affect their orientation and mobility as well as safety. Their performance at school may depend highly on the awareness of their special needs by teachers and special educators (WHO, 1992; Wilkinson, Stewart and Trantham, 2000).

Depending on the severity and types of the visual impairment, the child may have difficulty in developing visual skills such as fixation, tracking, focus, accommodation, and convergence (Mason and McCall, 2007). However, depending on his or her particular vision difficulties and

residual vision, each child will function differently in the environment (Lowe, 1990). Pagliano (1998) also stated that 80% of the education is presented through visual sense. This indicates that nothing can substitute the place of vision. Because, all other senses together cannot provide the depth or detail information that vision gives in a single glance. As the result of this, their school performance could be affected. In addition to this, low vision has an impact on pupil's behaviour. However, it does not alone cause a pupil to have significant behavioural problems or disorders, even if it does generally have some subtle influence on behaviour. This may occur because of restricted activity in the environment, social deprivation, absence of sensory stimulation. However, professionals should work on this area to reduce or eliminate these behaviours by helping the pupils increasing activity or using behaviour change strategies (Silberman, 2000).

## **2.5 Why Unique Educational Approach for Pupils with Low Vision?**

All children and young people are special. Each one has their own educational needs. All children benefit from additional support. Some need more help than others but all can and all do learn. There are individual differences in the way children learn. This is also true on children with visual impairment because they are not homogeneous groups (Halliwell, 2003).

Alves et al. (2009) also stated that visual impairment is divided into two groups with distinct characteristics and needs: individuals with low vision and individuals with blindness. Students with low vision have residual vision which enables them to read printed materials with the aid of didactic resources and special equipment. Whereas blindness is the term used to describe total loss of vision and conditions in which individuals need to rely predominantly on vision substitution skills. In the educational field, a blind student does not use vision in the learning process.

Furthermore, Saliva et al. (2010) also stated that children with blindness are the one with very limited vision or absence of usable vision. These pupils are able to perceive light or images, but are not able to use residual vision for functional purposes and thus rely on reading and writing by using the Braille system. Whereas, children with low vision are defined as having visual limitation but they can use their vision as a primary means of learning and they have an ability to read large print.

As indicated WHO (1992), Keeffe (1995) the definitions of low vision have an important implication on education of children with low vision and it implies that children with low vision should not be educated using techniques appropriate for totally blind. Rather, whenever possible, they should be educated using the print medium and other devices in order to give full educational opportunities and meet their educational needs.

On the other hand, Gulliford and Upton (1992) argued that there is no clear dividing line between teaching those children who are blind and those who have a vision. However, low vision is distinct from blindness, even though domain-specific definitions may overlap. There is individual difference. As the result of this, there are a distinction between the groups are not only between children who are blind and low vision, but also among children with low vision. This is because the effects of low vision are not the same for all. The variation can occur in the amount of vision for distance and near object, the visual field, the ability to see print or objects which have poor contrast, color vision and the effect of light on vision. Moreover, Hardman et al. (2005) also explained that unlike pupils with low vision who can use their remaining vision in combination with other senses, persons who are blind must rely solely on their other senses. For persons who are blind, their tactile sense allows them to enter the world of literature and reading. Braille is the most commonly used tactile medium for teaching reading.

Generally, children with blindness and low vision learn differently. They cannot rely on their vision to provide information. They obtain the information through their other senses whereas children with low vision can be helped to learn by providing them with optical devices like magnifying glasses, large size print materials and good lighting environment. Therefore, Children with low vision need not, and should not, be educated as if they are totally blind. Children with low vision must utilize their vision as an important channel of learning contrary to the totally blind that have to rely on the senses other than vision (Upadhyaya and Singh, 2008).

## **2.6 Factors Affecting Education of Pupils with Low Vision**

In addition to this, there are some common educational challenges for PWLV in special schools. The challenges of children with low vision are lack of low vision services, adapted curricula to different subject, lack of indicators to monitor and evaluate programs, unable to establish a link to pediatric eye care facilities and establish referral systems, unable to early identification of children with low vision, capacity of pediatric eye care services and unaffordability of low vision devices from non government and government organization (Westwood, 2009). Similarly, Mason and McCall (1997) also stated that, children with low vision will be influenced by many factors such as the severity of the visual impairment, the extent of early intervention, the supportiveness of the family environment, motivation, opportunities for exploration and the quantity and quality of the practical experiences they have enjoyed.

Low vision can also present potential barriers to learning such as reduced access to printed material or difficulties with reading and writing. The difficulties are sometimes due to the intrinsic nature of media; the focuses of the literature also within the field of visual impairment is often on the educational needs and developmental levels of children who are blind. With the exception of research related to literacy and access to the environment, information specifically

related to the status of children with low vision and their educational needs is grossly under-reported (Ambrose and Corn, 1997). In addition to this, MoE (2012) also stated the idea of lack of appropriate educational services for children with special needs there is still a gap in providing access to all children and actualizing special needs education. The main barriers to learning are lack of knowledge about diversity, rigid and poor teaching methods, inconvenient learning environment, lack of identification processes, inadequate assessment procedures. As a result, schools and teachers find it difficult to accommodate students with special educational needs, and compel them to adapt to the school, instead of adapting to the need of the learner.

### **2.6.1 Lack of Appropriate Services**

American Foundation for the Blind (AFB) (2012) stated that most individuals with visual impairment have low vision. However, children with low vision are often an overlooked majority in the population of children who have total blindness. Educational needs of pupil with low vision are often confused with students who are blind. As the result of this, these children present numerous challenges to get appropriate educational services. They have usable vision that can be used meaningfully. However, the provision of appropriate services is still difficult and an unfinished task (Wu, Krajcik, & Soloway, 2001). It is estimated that there are about 140 million people worldwide with low vision and of these; 35 million are in need of low vision services. However, utilization rates of low vision services are universally low. Furthermore, it has been estimated that very few people with low vision, possibly only 5–10%, actually received low vision services (WHO, 2002).

The majority of children with visual impairments have some vision, and, even among children in special schools for blind children, as many as 80 percent ,have vision that could be used in daily activities. However, in many parts of the world, these children are rarely encouraged to develop

the use of their low vision and their existence is often ignored by educational staff. As the result of this, a significant number of pupils with low vision face challenges to learn and use their useful vision through the provision of appropriate services, materials and devices. For instance, PWLV may not be able to progress without special training (WHO, 1992 Keffe1995).

Specifically in many developing countries, children with visual impairment are taught in residential schools. A significant proportion of students at schools for the blind in Africa are severely visually impaired rather than blind. Despite this, most formal education is conducted using techniques appropriate for the totally blind such as Braille. However, due to increasing awareness of the needs of children with low vision, some countries are now developing educational services for students with low vision. Being able to read ink-print allows a child much greater access to information and a wider range of recreational activities and educational as well as employment opportunities. For children with low vision optical devices may be required to attain a near acuity which allows access to ink print (Silver, Gilbert, Spoerer & Foster ,1995).

### **2.6.2 Misunderstanding among Teachers about the Usage of Residual Vision**

Kirk et al., (1995) stated that the real problem of pupil with low vision is not their limited ability of visual functioning. Rather, the difficulty is on the misunderstanding of the educators. Similarly, American Foundation for the blind Teachers and significant others discourage children with low vision from using their residual vision for educational advancement. They still strongly believe that sight can be saved by not using it to perform visual tasks in the classroom, and that use of vision in performing visual school tasks may cause it to deteriorate and ultimately lead to total blindness. It has been noted that the misunderstanding of teachers in the classroom affect the success of students with low vision negatively. Children with low vision who have been

admitted to special school for the blind may not be in suitable environment. Therefore, they do fail to reach their optimum visual functioning because of the absence of opportunities (Kirk et al., 1995).

The controversy that surrounded the use of residual vision has been a protracted one. Lowerfield (1983) observed that some educators have suggested that the use of residual vision is responsible for its deterioration whereas others suggested that non-visual means of learning prepares the person with limited vision for the total loss of sight. Mason and McCall, (1997) also identified the most common misunderstandings teachers and others have. These include; holding a book close to the eye will harm vision or can cause short sightedness, lower level of light can harm the eye, loss of vision in one eye can reduce the total vision by 50%, if children are registered as visually impaired they have no sight at all, they have other senses, the wearing of contact lenses make the eye lazy and using residual vision can cause of blindness.

On the other hand, Barraga (1995) argued that visual efficiency increases in children with low vision through its constant usage. This position currently underpins the new thinking and practice in the education of children with low vision. However, still in some parts of the world (including developed& developing nations), those with low vision are only taught compensatory strategies that do not allow for the use of vision. Obstacles also exist in the area of adaptations of materials for students with visual impairment. However, children with visual impairment should be encouraged to use their residual vision at class room and at play (Barraga, 1995).

### **2.6.3 Adapted Orientation and Mobility Training for Pupils with Low Vision**

Special instruction in orientation and mobility skills can also help pupils with low vision to make use of their residual vision and increase their ability to explore and move about independently. Orientation involves an awareness of space and the environment, especially in terms of one's

own body position in space (Wilson, 2003). Mobility and orientation skills vary greatly among pupil with visual impairment. For example, common sense seems to tell us that this skill will be better among those who have residual vision and those who lose their vision in life, but this is not always true (Hallahan, et al., 2012) .

Studies have explored the relationship between orientation and mobility as well as visual abilities. Geruschat & Turano (2002), indicated that contrast sensitivity and visual field influences orientation and mobility ability and walking speed to a greater extent than visual acuity. Additionally, the direct impact of low vision on orientation and mobility has been reported (Ambrose & Corn, 1997). For the sighted individuals, information for use in avoiding potential obstacles and remaining orientated is subconsciously collected in advance through the central and peripheral visual fields. For individuals with low vision, the information typically available through visual preview of physical surroundings can be absent or unreliable, thus requiring additional efforts to acquire information related to near and distance environments. Furthermore, training in mobility and orientation enhances self-esteem and self-confidence; develops gross and fine motor skills. It has also a great positive impact on their academic performance.

Even though, the availability of adapted training on orientation and mobility is an essential component in the educational service delivery system for pupils with low vision, there is scarcity of literature on the approach and level of orientation for those children (Ambrose & Corn, 1997). Similarly, Wilson (2003) stated that adapted Instruction in orientation and mobility skills can also help children with low vision to make use of their residual vision and increase their ability to explore and move independently. However, until recently, the mobility of children with low

vision had not got attention. This is because of the scarcity of mobility and orientation specialist and misconception among educators in the school.

In addition to this, Hallahan et al., (2012) and Koenig & Holbrook, (2000), also confirmed that even though pupil in special schools are more likely to receive orientation and mobility skills than those who are in regular schools the specific literature to the provision of adapted orientation and mobility instruction to children with low vision is limited. A review of the literature reveals that little research has been conducted related to the education of children who have low vision, and even less in the area of teaching orientation and mobility to school-aged children. Published studies however, are mainly related to children's literacy skills.

#### **2.6.4 Teacher's Skill**

Teachers specifically trained and certified in educating students with visual impairments must be available to provide direct instruction in the expanded core curriculum and to serve as a primary educational resource for students. Teachers of students with low vision must be knowledgeable about eye conditions and the possible impact of these conditions on growth, development and learning. They are expected to have a working knowledge of the disability-specific skills needed by students with visual impairments and utilize effective specialized assessment and teaching techniques. Machin, Saw, Tan, Wang & Wong (2009) stated that educators should possess experience, passion, ability and patience for children with difficulties.

Trained teachers play a critical role in creating a positive classroom environment and in addressing individual learning needs and providing appropriate educational services. Smith, Polloway, Patton and Dowdy (2001) listed three qualities essential to establish a successful inclusion. These include teacher's attitude, teacher's expectations and teacher's competence.

There is a critical shortage of qualified teachers who have this specialized knowledge and skills (Kircher & Diament, 1999). This only exacerbates the difficulties on providing educational services for students with low vision. Chaman (1989) as cited in Corn et al., (2010) also suggested that it is essential for the teacher to encourage pupils to overcome their difficulties and thus enable them to fulfill their potential and adapt to a rapidly changing world. Teacher should be constantly vigilant to ensure that they set high standards for their pupils, without lowering levels of expectation. The teacher's aims should be that pupils become independent learners, taking a full and active role in all spheres of life.

### **2.6.5 Regular Eye Examination**

Corn et al., (2003) stated that there are a number of related services that are essential for education of PWLV. Among these, regular eye examination is the one. Thompson, (1998) also suggested that, PWLV should receive regular eye examinations to monitor their eye infection or diseases if any and they have to checked that spectacle prescriptions or low vision aids are current. Prescriptions can change over time as can visual demands and students with low vision need to be monitored closely to ensure their visual needs are met. In line with this Thompson, (1998) stated that most children registered as blind have some vision and it is incumbent to assessors to understand what that vision is and for what purposes and under what lightening conditions it can be used .It is insufficient to rely solely up on objectively measured visual acuities recorded in medical files. Such as information will not unequivocally determine the ideal size, color and contrast levels in print-based teaching materials for child.

### **2.6.6 Functional Vision Assessment to Pupils with Low Vision**

Many people think that blind people have no vision at all and would be quite surprised to see a person travelling with a long cane reading a book or looking at a map. However, this is quite

common and many people who are registered blind do have some functional vision. Functional vision refers to the ability of a pupil to use vision to perform visual tasks (Colenbrander 2005). At this time functional vision assessment is vital.

Functional vision is primarily developmental. The more visual experiences the child has, the more the path-ways to the brain are stimulated and the greater the accumulation of variety of visual images and memories. Smith and Tyler (2010) also stated that functional vision assessment can be complicated and it must be gathered from multiple sources, for instance teachers of pupils with low vision, pupils with low vision and others. Additionally, Friend (2010) stated that teachers can play a key role in identifying pupil with low vision. Therefore, it is crucial to have a clear understanding of the present level of visual functioning of a student with visual impairment. Furthermore, Zimmerman (2011) as cited in Hallahan et al., (2012) stated that it involves observing the students interacting in different environments and under different lightening condition how the students identify objects and perform visual tasks. It can be also improved with training and it is important to determine the student's learning style and appropriate teaching strategies and accommodations.

Swann, Kitchin (1990) and MoE (2012) stated that a comprehensive assessment of visual functioning consisted different element such as visual ability, visual filed, color sensitivity, glare recovery and light and dark adaptation. In the presence of an eye disease each of these may be affected with different level of degree and this assessment should be done by certified teacher of visual impairment. Furthermore, Hyvärinen (2003) also stated that functional vision assessment is the critical important step in the developmental progress of a child with visual impairment. Understanding the child's abilities and the nature of cognitive, visual or other sensory impairments is foundational knowledge for creating an educational plan. Additionally, one of the

most important prerequisites in planning a student's educational program is assessing the student's strengths and weaknesses. Assessment can be made by a single teacher of children's with visual impairment or a group of professionals. Therefore, assessment for students with low vision could be made by members of the multidisciplinary team. It indicates whether an instructional program is appropriate or not and it is central to the provision of meaningful and productive learning experiences for pupil with low vision (AFB, 2006).

However, children with low vision are often mislabelled and mis- considered as a result of absence of appropriate functional vision assessment test. They are also undereducated because they are neither blind nor sighted. Not only this but also majority of students with low vision enrolled in school without any functional vision assessment and appropriate low vision services. In addition to this, in developing countries such as Africa most of children labelled "blind" are found to possess significant useful residual vision (Sillver et al., (1995) and WHO, (1992). This remaining sight could be used to carry out activities of daily living independently including their learning. Unfortunately, the use of this residual vision has been largely ignored by educators (WHO, 1992). Hence, Professionals must provide functional vision assessment and interventions to optimize the use of vision in functional tasks. And they require systematic evaluation for the use of their vision (Dalton, 1998; Roman-Lantzy, 2007).

### **2.6.7 Resource Rooms and Facilities**

Resource room is a room in regular or special school, with equipment. In this particular room teaching-learning materials should be available at all, levels of educational institution for inspiring learning for learners with special needs MoE (2012). For many children, a low vision device can be an extremely versatile kit. Availability and usage of resources and adapted materials as well as school facilities is part of the contributing factors in supporting pupil with

low vision. When a school is well equipped with the basic teaching and learning materials, then teachers will use it properly and the teacher's job becomes easier and the learning outcomes of all learners will be improved (Gross, 1995). Lovey (1995) also stated that low vision devices are vital to teach pupil with low vision. It is prescribed to improve the child's visual abilities at near, intermediate and distance. Studies have shown that children may benefit from the use of low vision devices. Moreover, low vision aids are used to maximize remaining vision in children with low vision to considerable amount.

### **2.6.8 Visual efficiency skills**

Recent research has emphasized that the education of children with low vision requires a multi-disciplinary team effort (Wilkinson et al., 2000). Such team often includes the parent, teacher of children with low vision, general education classroom teachers, eye care professional, orientation and mobility specialist and technology consultant. The team works together to provide services, awareness of motion, changes lens and light as well as color perception, cognition, sensory development and integration, perceptual abilities, psychological organization and physical characteristics of the individual, and environmental cues. That includes contrast and time elements involved in the presenting materials, special relationships and enlightenment Corn & Lusk (2010).

To sum up, visual efficiency skill is important to teach and train learners with low vision to actively utilize their remaining vision Cox & Dykes (2001). A functional assessment should be done; then, planning should take place with regard to activities and ways to effectively utilize vision. According to Hatlen (2002), the teaching of these visual efficiency skills is the responsibility of the trained teacher of learners with visual impairments.

### **2.6.9 Training on the Use of Low Vision Devices and Residual Vision**

Lanner (2000) explained that, pupil with low vision may have poor vision for detailed work such as reading fine print but may have enough vision to navigate independently. Moreover, the use of functional vision could be enhanced with appropriate training programs. In addition to this, Barraga & Erin (2001) as cited in Vaughn (2011) stated that children with low vision require training to use low vision devices to utilize residual vision to maximum effect. For example, they may need to be taught to scan systematically, to discriminate and to look for details. Often PWLV find it difficult to distinguish facial expressions and body posture.

Besides, visual skill training teaches PWLV a specific set of skills that can be acquired through a systematic approach by their teachers. Corn and Koenig, (1996) also suggested that pupil with low vision should receive training on visual skill instruction. The instruction has three approaches that include visual efficiency, visual stimulation and visual utilization. The goal of this visual skill instruction is to teach pupils how to use their functional vision and maximize their ability to perceive information visually. Mason and McCall (1997) also stated that training in the use of both optical and non-optical low vision devices must be given to the child in order to meet the needs of pupil with low vision and they may use the devices to its fullest level. In this regard, studies by Corn et al., (2003) revealed that current trends however, showed state-wide efforts to provide training to PWLV to increase their visual efficiency and to use low vision devices.

Generally, a person with low vision experiences greater difficulties significantly than a person without visual impairment and total blindness when performing tasks that require the use of sight. These difficulties may be slightly alleviated by the use of such devices as eyeglasses or contact lenses. Given the proper modifications to the environment, good use of his/her remaining

vision, and other devices such as the spectacles mentioned above, a person with low vision can perform a variety of tasks using his/her vision (Suubi, 2012). This is especially true when one considers their specific needs.

#### **2.6.10 Adaptations and Modification of Instructional Materials and method**

For a very long time, learning has been considered as a product of teaching. Teachers have been mostly using non-participatory strategies which are not effective in teaching. An effective teaching is more than merely transmission of information from teachers to students but rather a complex interaction between the two parts (Webster & Roe, 1998). Therefore, a paradigm shift is required from non-participatory, traditional teaching to modern teaching that involves an interaction between a teacher and a student, where different needs of students are considered. However, teaching children who have diverse educational needs is not easy (Bowring- Carr & West-Burnham, 1997). In relation to this, Castellano (2005), Smith and Tyler (2010) stated that students with low vision are constantly challenged by classroom instructional approach because, most of pupils with low vision require adaptation and accommodation to access the general curriculum and succeed at school. Therefore, teachers have responsibility to adapt teaching method and offered practical information. It will empower pupils with low vision and enable them to be a full independent participant. Furthermore, the degree of visual abilities varies among the students. This can lead to variation in learning needs and learning strategies for students (Salisbury, 2008). It is this degree of severity that will determine the extent of understanding how the world is organized and how it can be acted upon (Webster & Roe, 1998). As a result, students with low vision require unique ways of addressing their academic problems. Therefore, it is important that teachers understand this desire to determine teaching methods and instruction for effective teaching (Salisbury, 2008).

In addition to this, there are five environmental elements that can be modified in the classrooms by the teacher to maximize the functional vision of the learner. These are: colour, contrast, time, illumination and space which include: size, pattern, distance, detail, and position (Vaughn, Bos & Schumm, 2000). The teachers should assess the learner with the low vision in order to determine which shades of colours he/she can most easily see. Some learners see bright colours with greater ease; whereas, other learners with different visual ability find it easier to identify dull colours (Cox & Dykes, 2001).

### **2.6.11 Adapted Physical Education**

Adapted physical education instruction can be delivered in a variety of placements including those found in both public and special school settings. The entire multidisciplinary team makes decisions about the specific needs of students with low vision by taking into consideration factors such as fitness level, motor skills development, ability to be in large groups, social needs, and safety (Columna, Davis, Lieberman, & Lytle, 2010). Therefore, adaptive physical education teachers should make adaptations based on individual characteristics, whether associated with a variety of co-occurring disabilities or with varying levels of vision. This is because, without physical education, students with low vision may not develop gross and fine motor skills, including locomotor skills that are necessary for fitness, wellness, and independent living.

All children should learn the same units, with modifications when necessary. They should typically receive an equal amount of instruction per week as their peers. Skilled peer tutors and para-educators can be a resource to assist with games, fitness, or other activities when needed (Houwen, Hartman, & Visscher, 2009). Generally, students with low vision must not be denied the opportunity to participate in physical education due to stereotypical barriers.

### **2.6.12 Conducive Classroom and School Environment**

Adaptations in the classroom and other areas of the school will certainly have to be made for children with low vision to enable them to be active learners in a fully inclusive way. Constantly, studies shows that the layout of the classroom, positioning of furniture, seating arrangements, location of specific areas for specific activities, arrangements of displays and reduction of distraction are important features of the classroom. The school environment affects the education and participation of pupils with visual impairment either positively or negatively. According to Smith et al., (2001) environmental features may be helpful or distracting to pupil with low vision. Therefore, teachers of pupil's with low vision and stake holders need to be alert to what environmental considerations assist in the education of pupil with low vision. Similarly, Kircher & Diamant (1999) stated that teachers have a role to play in providing a positive and supportive school environment. They also recommended that classrooms should contain various equipments and learning devices such as magnification, specialized lighting, audio support, portable reading devices, large key calculators, large print or magnified screen, high contrast and brightly colored wall as well as colorful furniture.

Mitchell (1999) also described that the environment should be modified to provide access to all children with special needs in and outside the classrooms. With access to all environmental areas, children with special needs will be able to interact with others academically and socially. Concrete teaching and learning materials should also be used by the teachers because teaching and learning materials help the teachers and learners. Similarly, Farrell (1990) mentioned that the organization of school and classrooms should support safe and easy access to all areas of learning. Class design and room lay out can help pupil with low vision to a large extent. Lewis & Doorlag (1995) and Pagliano (1998) also recommended that, children with low vision need their

environment to be arranged logically and consistently, with floor surfaces plain and matt to avoid glare, walls painted in contrasting colors to highlight their location and changes in floor levels signaled well in advance by texture or color changes. Furthermore, doors should be left open or closed, but not ajar and the play grounds also should be free from barriers. These children tend to require double illumination than the usual levels. But, with glare-reduced lighting, shadows do not create visual confusion.

Briefly, a daptation of teaching and learning environment is at the core of successful education. So, the classroom and school environment should be modified to make them accessible if the environment in which learning occurs is not supportive to students with visual impairments, their learning will automatically be interrupted (Johnsen, 2001). Furthermore, pupils with low vision need lighting depending on individual learner's needs, classroom design and arrangement that provide adequate space for movement and storage facilities for Braille writers and other materials. Some pupils with low vision require more light to see clearly while those who are light sensitive require less light. Surfaces should have distinct color contrast to allow pupils with low vision to see clearly. Facilities should be adapted to ensure comfortable postures for pupils with low vision (Vaughn et al., 2011).

### **2.6.13 Assessment of learners' Needs**

Assessment of learners refers to the systematic procedures of gathering and identifying relevant educational information about a student. The main aim is to understand the specific needs of the student (McLoughlin & Lewis, 2005). Quality teaching and learning can only be achieved when student's limitation, ability and the preference of learning media are assessed and known. In this regard, making assessment of learning media is crucial to provide full educational support to

meet their specific educational needs and create a good teaching and learning process. Therefore, it should be made prior to the beginning of the lessons. It is important for both the pupils and the teacher. This is because it allows for an understanding of the student's academic ability, learning style as well as learning needs (Spungin, 2002).

Assessment is important for knowing whether a student needs large prints, magnifiers, lenses or Braille. It is also important to know the learning style, ability and learning pace of the student (Spungin, 2002). Similarly, Koenig and Holbrook (2000) developed a formal learning media assessment (LMA). A Learning Media Assessment (LMA) determines the most efficient and meaningful reading and learning media. The term media includes Braille, regular print, and regular print with magnification, large print, digital text, and audio materials. After the initial medium for reading and writing has been established, technology, electronic books, graphs, maps, and pictures should be incorporated into the media assessment. Smith and Tyler (2010) also remarked that, it is important to assist teachers in determining which students would benefit from instruction in print, Braille, or dual media. This assessment of pupil with low vision can also support teachers to plan teaching and meeting individual needs of the pupils with low vision (Mitchell, 2008; Spungin, 2002). However, in many school systems, assessment which is important for student's learning is not done. Pieces of information are not gathered about the specific characteristics of PWLV in advance (Johnsen, 2001; Smidt, 2009).

## **CHAPTER THREE**

### **3. Methodology**

#### **3.1. The Research Design**

The research design employed in this study was a mixed research method. In this regard, Creswell et al., (2009) stated that the combining quantitative and qualitative research methods in educational and social research are a better approach. Using both methods can capitalize on the strength of each approach and compensate their different limitations. Additionally, Cohen, Manion & Morrison (2011) reveal that mixed-method in education has manifold uses and it can avoid distortion of the researcher's picture of a particular slice of reality. It could also provide more comprehensive and complete answers to research objectives, going beyond the limitations of a single approach. It has also an advantage to expand understanding and triangulate findings from different data sources. Bearing the above notion in mind, the researcher preferred a mixed approach due to the above stated rationales and the nature of the problem under the study.

#### **3.2. Study Site**

Sebeta Special School for the Blind was opened for children with visual impairment in 1957 E.C. by the then government of Ethiopia. It is one of government owned special school for the blind. The school is found 25 Km south of Addis Ababa. It has long years of experience in teaching children with visual impairments. The school has 5 blocks and 17 classrooms of which 9 classrooms are used for office purpose as well as for other purposes such as ICT rooms and library. While the rest for teaching learning process. The school comprised first and second cycle i.e. grade 1 to 8. In this school, there are about 35 teaching staff and 309 pupils with visual

impairment actively learned in the compound. The school has separate buildings for dormitory service and there is also a café where pupils get meal three times a day.

### **3.3. Participants of the Study**

The target populations of the study are Pupils with Low Vision from grade 5 to 8. It was expected that these pupils from these grade levels can respond questionnaires than those PWLV in the lower grades relatively. Besides teachers, School principals and Special Needs Experts are key informant of the study.

### **3.4. Sampling Technique and Procedure**

Dawson (2006) stated discussed that it is possible to use a mixture of sampling techniques within one study which may help to overcome some of the disadvantages found within different procedures. By taking this idea in to consideration, the researcher took appropriate sampling techniques. The selection of sampling techniques for the study was made based on the study objectives, resourcefulness of the sample and the type of population considered.

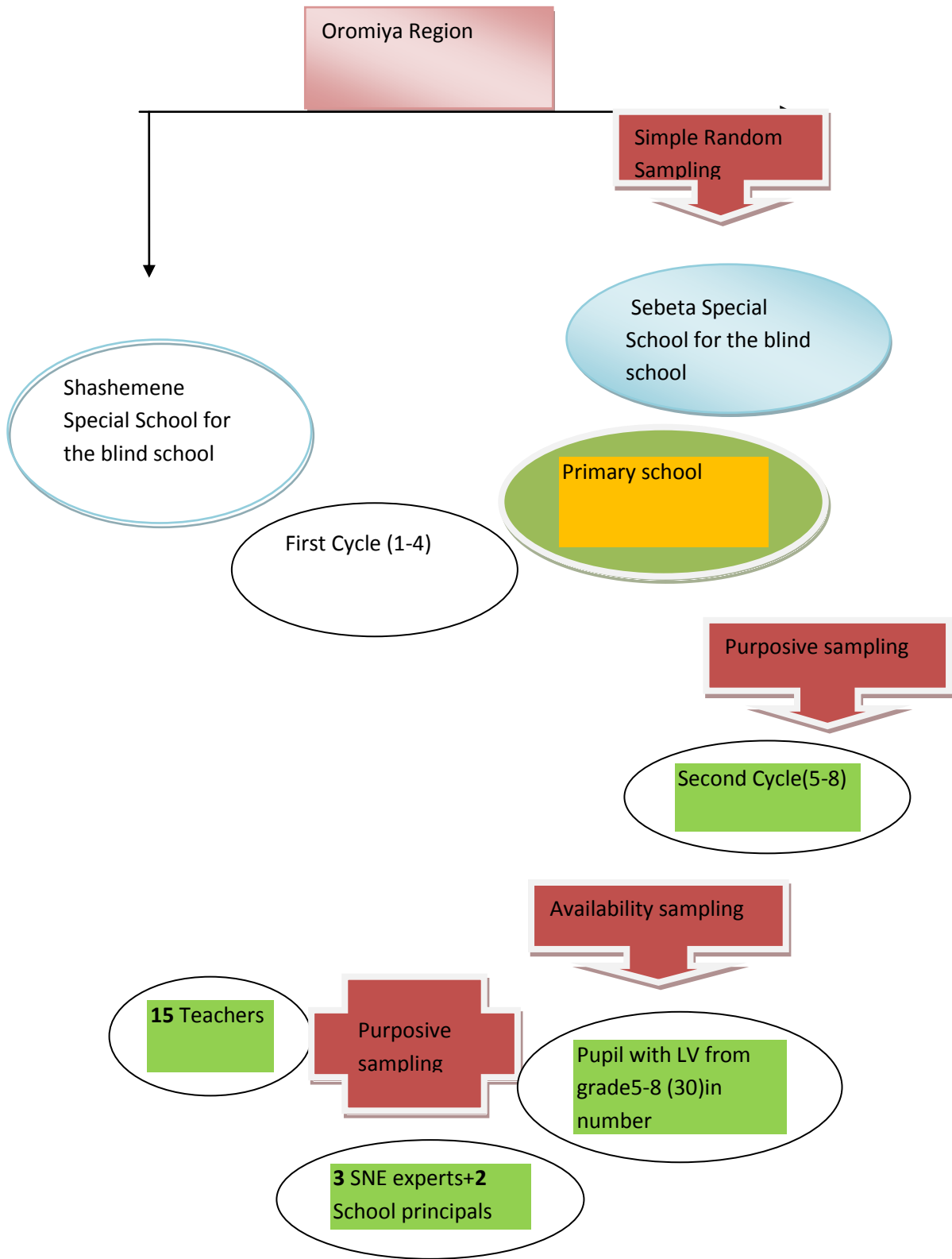
Accordingly, the sampling techniques employed to draw participants and research site for this study were simple random, purposive and available sampling techniques. In relation to selection procedure of the school, the researcher tried to get information from Oromya Education Bureau (OEB) and the bureau told the researcher that, there are two special schools for the blind in Oromya Region (i.e., Sebeta, and Shashemene Special School for the Blind). From these schools, Sebeta Special School for the Blind was selected as study site for the study using simple random sampling. The reason why the researcher used simple random sampling technique is due to their homogeneity. This means both schools are found in the same region, admit pupil with low vision

and are residential schools and many more similarities are there. Hence, simple random sampling technique was found to be appropriate.

As far as the selection of grade level is concerned, there were two cycles (i.e., first cycle i.e. 1-4 and second cycle i.e. 5-8). Among these, the researcher took the second cycle (5-8) using purposive sampling. The reason was due to their age and understanding level. Therefore, it was speculated that these pupils can understand and give appropriate information to the self-reported visual functional assessment scale as well as the questionnaire in a relatively better way as compared to grade 1-4 pupils. With regard to selection of PWLV is concerned, all pupils with low vision who are attending their education in grade 5,6,7 &8 in 2013/14 were included using availability sampling technique because their number was small (30) and it was found to be manageable.

With regard to selection of teachers, there were totally twenty (20) teachers who teach pupil with low vision in the second cycle (5-8). Among these, 15 teachers were participated in the study using purposive sampling technique. The selection criterion was teachers' experience. Hence, five of them were excluded as they have less experience (below five). As the result, the researcher assumed that they could have ample knowledge in the area and generate more information. Additionally, the researcher had selected two school principals who are currently running the educational program at the school. Furthermore, one special educational needs expert from Oromiya Education Bureau and two experts from Ministry of Education were also participated in the study using purposive sampling so that they could generate information on the overall situation of education of PWLV.

# Pictorial Representation of the Sampling Technique and Process



### **3.6. Data Collection Instruments**

In order to gather data, both qualitative and quantitative data gathering tools were used because the researcher assumed that using both tools would help to get secure, reliable and adequate information. The data collection instruments used in the study includes questionnaire, semi-structured interview, focus group discussion, functional vision assessment tool as well as observation. The researcher developed these instruments based on review of literatures. In addition to this, these instruments are widely used to conduct research in educational area to obtain sufficient information on certain conditions and practices to investigate individuals or groups. That is why, the researcher used these instruments. The following section presents each instrument in detail.

#### **3.6.1. Questionnaire**

According to Docherty and Sandelowski (1999), children are the best sources of information about themselves. In this regard, the researcher used questionnaires to gather relevant data from pupil with low vision. Questionnaire has an advantage that it requires less time, less expensive and permits collection of data from a much larger sample as compared to other data gathering instruments (Gay, Mills & Airasian, 2009). In this regard, questionnaire was prepared and distributed for PWLV. It contained three parts: part one, deals with demographic data of pupil with low vision, part two, is about close-ended items which are 20 and part three forwards two open-ended items. The questionnaire was developed in a likert scale form which consisted of five response categories. These are strongly agree =1, agree= 2, undecided =3, disagree= 4 and strongly disagree =5. It was originally prepared by the researcher from related literatures in the field. Then after, the questionnaire was given to two professionals of SNE for checking content

validity and possible modifications. Accordingly, some modifications were made to the items. The questionnaire was developed in English and translated into their mother tongue (Afan Oromo) by language expert to make it clear, understandable as well as avoid some possible misunderstandings related to language barrier. After the translation work is completed, it was again given back to a PhD candidate in the department of SNE and who has first degree in Afan Oromo for possible language consistency and avoiding some distracting languages if there are any. At the time of administration, three items which have technical terms and believed to be difficult concepts were explained briefly for the participants.

Additionally, the researcher assigned eight (8) readers for pupil with low vision who cannot read and write through their vision. The readers were from the department of SNE, Afan Oromo Language and Curriculum and Teacher Development, AAU. This was done with the intent that, the respondents would give genuine information as the readers are external as opposed to their teachers. In addition, readers are native speakers of Afan Oromo and they will make clarification on each item as they demand. The researcher gave the readers one day training about the questionnaire.

For those pupils with low vision who can read and write through their vision, the questionnaire was prepared in large print with different font sizes. Whereas, for those pupils who can read with magnifying lenses, the researcher provided hand held magnifying lenses so that, they filled out with no problem. For both cases, the researcher provided them breaks after completing each page to reduce their visual fatigue. However, during administration of the questionnaires, close supervision was made by the researcher.

### **3.6.2. Functional Vision Assessment Test**

To identify pupil with low vision at Sebeta Special School for the Blind, the researcher used standardized self-reported scale which is called Low Vision Prasad- Functional Vision Questionnaire (LVP-FVQ). This tool was found to be relatively suitable for this particular study. According to Gothwal et al., (2003), LVP-FVQ is reliable, valid, and simple questionnaire that can be used to assess self reported difficulties with the use of functional vision ability in school going children with visual impairment in developing countries. It has 19 items which cover four domains: field of vision, (5 questions), distant vision (6 questions), near vision (6 questions) and colour vision (2 questions). The items have 5 scales (0–4). A “Yes” or “No” response was first requested for each question. If the answer was “No,” the response was recorded as “No difficulty,” and the score for that particular question was zero. This means that, the individual is not considered as low vision; therefore, he/she will be excluded. If the answer was affirmative, then the subjects were instructed to rate on a scale of 1 to 4 which indicates the presence and level of difficulty they experienced in performing each task. They were told that 1 meant “a little difficulty” 2 meant a moderate amount, 3 meant a great deal and 4 meant “unable to do the activity due to visual reasons. Originally, the tool was administered verbally to 78 school children who are visually impaired at special school in India. The reliability of LVP- FVQ was high scores (0.93); whereas, the present reliability was calculated using (Cronbach alpha) and found to be 0.76 which can be regarded as an indication of quite a high reliability. To minimize the language barrier, the researcher also translates into Afan-Oromo.

### **3.6.3. Focus Group Discussion**

Morgan (2007) defines focus group as “a research technique that collects data through group interaction on a topic determined by the researcher”. It consists of small groups of people who are brought together by a researcher to explore perception and ideas about a specific issue. Therefore, this technique was employed to acquire relevant data from teachers about the educational challenges and opportunities of pupil with low vision. The FGD was conducted with fifteen teachers from Sebeta Special School for the blind (9 male and 6 female). It was conducted by forming three groups and discussion was held in three sessions as well. The guiding question consisted 10 items.

As far as the level of education is concerned, 14 of them were Diploma holders and 1 of them was a degree holder. Among the participants, 14 of them were general education teachers; whereas, 1 of them was special educational needs teacher. Their teaching experience was from 6 years to 35 years. From the total number of participants in the FGD, 11 of them had taken training related to pupil with low vision but 4 of them are not. The FGD was conducted in Information and Communication Technology (ICT) room.

There were some guiding questions related to identification of pupil with low vision and their educational challenges and opportunities. In addition to the guiding questions, the researcher prepared format which contained personal information of teachers such as, sex, level of education, teaching experience, training taken or not in relation to low vision, field of study and this information is filled by teachers. Audio tape was used with the consent of the participants and before starting the FGD, the researcher explained clearly the purpose of the FGD and informed their voices are tape recorded. The discussion was made for 90 minutes for each group then the data was transcribed later.

#### **3.6.4. Semi-structured Interview**

Semi-structured interview was used to get multiple views of participants towards identification, the educational challenges and opportunities of pupil with low vision in Sebeta Special School for the Blind. Interview was used for school principals, Special Educational Needs Experts at Oromya Education Bureau and Ministry of Education. The interview guide was prepared based on the related reviewed literature and the objectives of the study.

According to Gillham (2005), semi-structured interview is an important way of conducting research because of its flexibility, excellent for establishing rapport and allow researcher to gain rich information about various conditions. Accordingly, guiding questions of the interview were prepared for the principals of Sebeta Special School and special educational needs expertise from Oromiya Educational Bureau and Ministry of Education. The interviews were recorded using audio-cassette tape recorder based on participants' consent and the interview was made for about 40 minutes to each informant.

### **3.6.5. Observation Checklist**

For this study, the researcher made observation in and outside the classrooms. In order to triangulate the data generated via other instruments, observation was used in this study. A non-participant observation was employed to catch up important dimensions. This type of observation does not require prolonged time for an observer to engage in a social setting where the experience is being studied (Bryman, 2004). Hence, this type of observation was chosen because of the limited time the researcher has for data collection. Accordingly, observation guide was prepared based on the review of related literature and it consisted of 15 items which were used to observe inside the classroom and the rest are for observing outside the classroom about the educational challenges and opportunities of pupils with low vision in this special school in

and outside the class rooms. Finally, final observation was made for two weeks with my colleagues to check the result.

### **3.7. Pilot Test**

Before administering the LVP-FVQ, it was made adapted to suit the cultural and social realities of the country in general and study site in particular. Then, Pilot test was conducted at Shashemene Special School for fifteen (15) pupils who are nominated by their teachers as having low vision. The reason for making pilot test at this particular school was due to various reasons. For instance, this school is found at the same region as that of the study area. Second, it admits and teaches pupil with low vision. Finally, it is also boarding school like Sebeta Special School and it has also second cycle (grade5-8) and other many similarities. After rigorous steps of adapting and validating the instrument, pilot test was made to find out the ambiguities and misunderstanding in the instruments and to either modify or omit some items. Uncomfortable sequences of the items were also corrected. Finally, it was made ready and administered at the main study area i.e. Sebeta Special School for the Blind.

### **3.8 Data Gathering Procedure**

The procedure followed for data collection had the following steps with the aim of ensuring the legal and ethical nature of research which would be very crucial for the successful completion of this particular study.

Firstly, the researcher obtained a permission letter from the Department of SNE under College of Education and Behavioral Studies found at Addis Ababa University. The first permission letter was submitted to Oromiya Educational Bureau to get information and statistical data about Special schools for the blind in Oromiya region. The researcher visited the Special schools for

the blind (i.e Shshemene and Sebeta Special School for the blind). Then, the researcher selected Sebeta special school for the blind. The second permission letter was given to Sebeta principal of Special school for the blind. Then permission was obtained to commence the activity of data collection. This allows the researcher constantly visit the selected Special school for the blind, creates rapport with the school principals, teachers and students and make the data collection process easier. The same letter was delivered to MoE.

### **3.9 Data Analysis**

As the researcher used qualitative and quantitative types of data, the data analysis method utilized was also two types- qualitative and quantitative. The qualitative data obtained via interview, observation, focus group discussion and open-ended questionnaire were analyzed qualitatively using the direct words of participants whenever necessary. In doing so, analyses were made systematically through elimination of personal bias that would affect the reflections and interpretations of the data. The quantitative data obtained via closed-ended questionnaires were analyzed through descriptive statistics. The analysis was made by categorizing data into themes. These include identification, opportunities and challenges. Statistical Package for Social Sciences (SPSS) version 20 was used for calculating the reliability.

### **3.10 Ethical Consideration**

It is known that research gives full attention to moral and ethical considerations. Creswell (2009) also stated that the researcher has an obligation to respect the rights, needs, values and desires of

the informants so that their identities will be kept anonymous and their views should be kept confidential. Forzano & Gravetter (2012) also indicated that, in research ethical issues must be considered at each step in the research process. Taking the above notion into consideration, the researcher was sensitive enough to the participants' culture, identities and perception. In addition, the researcher requested the concerned bodies for a formal permission to collect the data. Finally, after describing the purpose of the study, informed consent was secured from participants and a common understanding was eventually created.

## **CHAPTER FOUR**

### **4. Result**

#### **4.1. Introduction**

This section presents findings .The chapter broadly consisted of two parts. The first part is concerned with the description of the demographic data of the participants. The second part presents findings related to identification, educational challenges and opportunities of pupil with low vision .The data are presented in the form of percentages using tables and organized thematically.

## 4.2. General Information about Participants

Identifying the characteristics of participants is very important in the analyses and interpretation of data for it shows us from whom the information was gathered. From this school a total of 50 participants were taken and participated in the study. Two separate questionnaires were administered for pupils with low vision who are in the second cycle from grade 5 to 8. Whereas, focus group discussion was held with teachers who teach these pupil and interview was made with school principals and special needs education experts at the Ministry of Education and Oromiya Education Bureau and observation also used in this study.

## 4.3 General Background of the Participants

**Table 1 Number of Participants in the Study**

	M	F	T	%
1. PWLV	20	10	30	(60%)
2. Teachers	9	6	15	(30%)
3. School Principals	1	1	2	(4%)
4. SNE Experts	2	1	3	(6%)
<b>Grand Total</b>	<b>32</b>	<b>18</b>	<b>50</b>	<b>(100%)</b>

As shown in table (1) the majority of the participants 30 (60%) was pupil with low vision. Whereas, 15 (30%) of them were teachers who teach these pupils and 2 (4) % of them were school principals who are currently running the school. In addition, 3(6%) of them are SNE

experts of which two from Ministry of Education and one from OEB also participated in the study.

**Table 2 Characteristics of Teacher’s participants by sex, field of study, qualification, taken LV training and Service year distribution**

	Fr	%
<b>Sex</b>		
Male	9	60%
Female	6	40%
Grand Total	15	100%
<b>Field of Study with Qualification</b>		
General Teacher Diploma	14	93.3%
Special Needs Teacher Degree	1	6.7%
Grand Total	15	100%
<b>Training on Low Vision</b>		
Teachers who Took LV Training	14	93.3%
Teachers who Took LV Training	1	6.7%
Grand Total	15	100%
<b>Range of Teacher’s Service Years</b>		
6-10	2	13.3%
11-15	4	26.7%
16-20	2	13.3%
21-25	-	-
26-30	2	13.3%
31-35	5	33.3%
Grand Total	15	100%

As it can be seen from table (3), out of 15 teachers who participated in focus group discussions, 6(40%) were females and 9 (60%) were males. As far as their educational qualification was concerned, the majority 14 (93.3%) were diploma holders and general education teachers while only 1 (6.67%) degree holders who is special needs education teachers. With regard to short term

on job training, almost all of the participants confirm that they took short term training on special needs education and low vision. The result indicated that teachers at Sebeta Special School for the blind may have better awareness about issues related to education of low vision. With regard to their teaching experience, the majority of teachers were found to have above eleven years experiences.

**Table3. Characteristics of Special Educational Needs Experts and School Principals**

Participants	Field of study	Gender		T	%
		M	F		
MoE SNE expert	SNE	2	-	2	40%
OEB SNE Experts	Other	-	1	1	20%
School Principals	Other	1	1	2	40%
<b>Grand Total</b>		<b>3</b>	<b>2</b>	<b>5</b>	<b>100%</b>

As indicated in table, (3), 5 participants were selected for interview. Among these 3 of them were females; whereas, 2 of them are males. From this, two of them were from Ministry of Education and their field of study was SNE and their position was special needs experts. One was from Oromya Educational bureau and she was educational expert as well as the focal person of special needs education at Oromya Education Bureau and her field of study was not SNE. The rest two were principals of the school and their field of study was not SNE as well. The responsibility of the principals was managing the overall activity of the school.

**Table4. Onset of the Condition of Pupil with Low Vision by Grade Distribution**

Grade	Age of Onset				Grand Total	
	Congenital		Acquired			
	T	%	T	%		
Grade5	3	10%	9	30%	12	40%

Grade 6	1	3.33%	8	26.7%	9	30%
Grade7	2	6.67%	2	6.7%	4	12.3%
Grade8	3	10%	2	6.7%	5	10.7%
<b>Grand Total</b>	<b>9</b>	<b>30%</b>	<b>21</b>	<b>70%</b>	<b>30</b>	<b>100%</b>

As indicated in the above Table (4) from grade 5, 3 (10%) of them were congenital and 9(30%) of them had acquired. Whereas, from grade 6, 1(3.33%) had congenital low vision while 8(26.6%) had acquired low vision. And from grade 7, 2 (6.67%) of them were congenital and 2(%6.67) of them were acquired. The rest 3(10%) of them from grade 8 were congenital and 2(6.67%) were acquired. This result shows that there are more pupils with acquired low vision in the sample school than the congenital. In relation to the grade levels, the majority that is,12(40%) were from grade 5 and 9(30%) were from grade 6 and 4 (13.3%) of them were from grade7 the remaining 9(30%) pupil were from grade 8. With respect to the grade level, the data showed that the number of PWLV decreased as the grade level increases.

**Table 5 Number of Pupil with Low Vision by Gender Distribution**

<b>Gender</b>	<b>T</b>	<b>%</b>
Male	9	30%
Female	21	70%
<b>Grand Total</b>	<b>15</b>	<b>100%</b>

As indicated in the above table, the majority 21 (70%) of participants with low vision were males while, the remaining 9 (30%) of them were females. As can be seen from the table, one could easily observe that there is gender disparity among SWLV in the study.

**Table 6 Characteristics of Pupil with Low Vision by Age Distribution**

Age Range	T	%
12-14 Years	9	30 %
15-17 Years	6	20 %
18-20 Years	7	23.3%
21-23 Years	4	13.3%
24-26 Years	4	13.3%

As shown in table (6), the participants' ranged from 12-26 of which 9(30%) were within 12-14 years, whereas 6 (20%) of them are between 15-17, 7 (23.3%) of the pupils age range between 18-20, 4(13.3%) of them are within the range of 21-23 and the rest 4 (13.3%) were aged between 24- 26 years. From the above table, one could see that significant number of participants 15 (50%) were within the age of 18 and above. The qualitative data revealed that although PWLV are admitted to the school with an appropriate age i.e. age six and expected to complete their primary education at the age of 15 and 16, it is not uncommon to see many students who are above this age range in the school. This was hypothesized by the participants that PWLV might conceal their appropriate age during entry. In addition, it was also reported that many pupils with low vision repeat classes.

#### **4.4. Identification, Educational Challenges and Opportunities of Pupil with Low Vision**

##### **4.4.1. Identification of PWLV**

One of the major research questions was identifying PWLV who are attending their education at Sebeta Special School for the Blind, from grade 5-8. To this end, as can be seen in the earlier

chapter, the self reported scale was adapted and used by the researcher. Accordingly, the result showed that out of 34 pupils who are suspected by their teachers as having low vision or risk of low vision, 4 of them were excluded because they were rated as no difficulty. This implies that they were more likely mild visual loss. Whereas, 30 of them were screened out as having low vision as they were assessed. Because they were rated from 1-3 (little difficulty to great deal) arguably, this implies that they have low vision. Additionally, one can say there could be a significant number of PWLV at Sebeta Special School in the selected cycle who attends their education together with pupils who are totally blind.

#### 4.4.2. Educational Challenges of PWLV at Sebeta Special School

**Table 7 Consideration, Encouragement and Treatment of Teachers for PWLV**

1. Your teachers considered you as totally blind

Scale	Fr	%
Strongly Agree	17	56.7%
Agree	4	13.3%
Undecided	5	16.7%
Disagree	1	3.3%
Strongly disagree	3	10.0%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

2.your teachers treat you equally with others who are totally blind

Scale	Fr	%
Strongly Agree	2	6.7%
Agree	4	13.3%
Undecided	3	10.0%
Disagree	7	23.3%
Strongly disagree	14	46.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

3.Your teachers encourage you to use your remaining Vision

Scale	Fr	%
Strongly Agree	3	10.0%
Agree	5	16.7%
Undecided	2	6.7%
Disagree	4	13.3%
Strongly disagree	16	53.3%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

4. Your teachers encourage you to read large print

Scale	Fr	%
Strongly Agree	4	13.3%
Agree	2	6.7%
Undecided	1	3.3%
Disagree	6	20.0%
Strongly disagree	17	56.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

5. You use brail extensively as primary modality for reading and writing

Scale	Fr	%
Strongly Agree	12	40%
Agree	15	50%
Undecided	1	3.3%
Disagree	2	6.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

Participants were asked whether their teachers considered them as blind or not. The result showed that the majority of the participants 21(70%) showed their agreement. Whereas, 4(13.3%) showed their disagreement and 5(16.7%) rated as undecided. This implies that there is a tendency to consider PWLV as blind. This may have its own adverse effect on the provision of appropriate educational services for students with low vision depending on their needs and ability. Interestingly, the qualitative data generated via Focus Grouped Discussion (FGD) and interview revealed that all students at Sebeta Special School are admitted with the name blind.

As a result, there is a confusion and wrong generalization that all students admitted to the school are blind. Consequently, teachers as well as the school considered these pupils as blind.

With regard to teachers' treatment, PWLV were asked whether their teachers were treated equally with their counter friends with total blindness. Accordingly, the majority 21 (70%) of them showed their disagreement; whereas 6 (20.0%) showed their agreement and the rest 3 (10%) rated undecided. This suggested that majority of PWLV are not given equal treatment by their teachers as compared to their peers with total blindness. Similarly, the FGD session also disclosed that teachers were found to have unequal treatment. Most teachers further admitted the fact that they do not see PWLV in equal eyes with totally blind students. This was not because of their limited visual ability. Furthermore, another one male respondent narrated the following:

*“Most of pupils with low vision have no good behavior. They are always disturbing the class room, aggressive, inattentive and bullying other students. When we see their disciplinary file, they had relatively repeated record than their peers who are totally blind. Because of this, sometimes we showed negative feeling to them”.*

Therefore, as the interview and FGD result confirmed that PWLV were not liked by their teachers because of their misbehaviour and they were treated unfairly.

Participants were also asked whether their teachers encourage them to use their residual vision. Accordingly, 20(66.7%) showed their disagreement; while, 8(26.7%) expressed their agreement and still few 2(6.7%) rated undecided. From this, one could see that the great majority of PWLV were not pushed by their teachers to use their residual vision. Furthermore, the qualitative data also confirmed that teachers were not encouraging PWLV to use their residual vision as they do

not support the idea of learning by residual sight. This was partly because teachers believe that this could deteriorate their remaining vision.

On the same vein, PWLV were also asked whether their teachers encourage them to read a large print. Accordingly, the majority of participants 23 (76.7%) confirmed their disagreement while 6 (20%) showed their agreement and still 1 (3.3 %) rated as undecided. From the above finding it is observed that PWLV are not mostly encouraged and stimulated by their teachers to read large prints. Supporting this idea, during FGD session, teachers also admitted that they were not providing and let them read large print materials. They also reported that things are not facilitated for PWLV to learn through print media and this situation put them at serious disadvantages. Concerning this, one female teacher said:

*“In our school we do not provide large print materials for PWLV. There is only Braille. This is partly because there are no large print materials including textbook in the school”*

However, there were attempts made by individual teachers to help PWLV to read large print through their remaining vision. For instance, five years ago, one teacher from his good will had started to teach reading skill for PWLV. Meanwhile, there was astonishing progress and these pupils started to read large prints such as cover pages of book and other boldly written materials. However, this attempt was suddenly suspended with an unknown reason.

When asked about usage of brail extensively as main medium of instruction, the majority of the participants that is 27 (90%) showed their agreement; while, few of them that is 2 (6.7%) showed their disagreement and 1(3.3%) rated undecided. From the above finding, it is clear that PWLV are mainly using brail as their major reading and writing modality. The qualitative data also confirmed that even though these pupils mainly prefer to learn through their vision, teachers and

the school enforced them to use only brail as the primary medium of instruction. In relation to this, the principals of the school narrated the following;

*We provide brail as the primary medium of instruction because all pupils with low vision had a medical certificate when they were admitted to the school. The certificate indicated that they are totally blind by ophthalmologist. Based on this, we provide for only Brail and students use it as a primary medium of instruction. In addition to this, there is no any guideline about how to teach these pupils. Because of this, I could not force teachers to use other options.*

**Table 8 Use of Instructional Materials, Adapted and Modified Instruction and Methods**

1.your teachers use adapted Instructional materials help you understand concept easily

Scale	Fr	%
Strongly Agree	1	3.3%
Agree	3	10.0%
Undecided	6	20.0%
Disagree	6	20.0%
Strongly disagree	14	46.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

2.your teachers modify teaching methods to suit the needs of pupils with low vision

Scale	Fr	%
Strongly Agree	1	3.3%
Agree	2	6.7%
Undecided	4	13.3%
Disagree	10	33.3%
Strongly disagree	11	36.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

3.Your Physical Education teacher provide adapted physical education different from pupil with total blindness

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly Agree	1	3.3%
Agree	3	10.0%
Undecided	2	6.7%
Disagree	12	40%
Strongly disagree	12	40%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

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With regard to the use of different adapted instructional materials for teaching pupil with low vision by their teachers, the majority of the participants 20 (66.7%) showed their disagreement; whereas, 4 (13.3%) of the participants expressed their agreement and 6 (20%) rated as undecided. This shows that teachers do not use various instructional materials in the classroom. The qualitative data generated via observation also depicted that teachers bring materials to classrooms however, the materials were not considerate of the needs of PWLV and they are designed only for students with blindness to be taught by tactile means. Hence, PWLV are not benefiting out of the instructional materials. Similarly, during FGD, teachers explained that there are various instructional materials which are suitable for PWLV in the resource center donated by different Governmental as well as Non-Governmental organizations. However, they admitted that they do not use these materials. The reasons mentioned were absence of commitment, failure to discharge their responsibility about the utilization of instructional materials and lack of enough knowledge on SNE were mentioned as major problems. Concerning this, one teacher who has an experience of 30 years explained the following:

*The first challenge is to get committed and well educated teachers who have the necessary knowledge and skill on SNE. Teachers also need to be responsible to teach pupils with low vision by taking into consideration their unique educational needs, ability and limitations. Then all things become easy. Therefore, I believe*

*teachers play significant roles on the education of pupil with low vision by adapting instructional materials.*

In addition to this, during the interview session with the school principal, it was also confirmed that teachers consider adaptation of instructional materials for PWLV as an additional burden. So, most teachers are not willing to adapt instructional materials for pupil with low vision.

Regarding modified teaching method, participants were asked whether their teachers modify teaching methods to meet the educational needs of pupil with low vision. As displayed in table (9), 21 (70%) of the participants showed their disagreement; whereas, 5 (16.7 %) of them showed their agreement and still 4 (13.3 %) rated undecided. The FGD also supported this idea and one of the participants stated the following:

*“Firstly, I tell you the truth we do not think about the educational needs of PWLV because there is a deep rooted tradition in this school. i.e., all pupils in this school are blind and can be taught through non visual means. We also accepted and guided by this tradition.”*

In addition to this, one of the participants from FGD session revealed the following;

*“Most teachers in this school (including me) are general education teachers. We do not have enough skills. So, how can they modify teaching methods to teach these pupils?” I believe this is difficult. As the result of this, these pupils do not receive appropriate services through modified teaching methods as their peers who have total blindness”.*

Supporting the above idea, during the interview, one of the SNE experts at MOE explained the following:

*In fact we know well the actual presence of PWLV at Sebeta Special School and other Schools for the blind. However, the problem is lack of clear guideline, printed*

*textbooks which are large print and modified curriculum that include teaching method for pupil with low vision. Even though, there is no modified curriculum nationwide for PWLV, I believe that teachers are responsible and should try their best to modify their teaching methods in the classroom in accordance with the individual needs of all children.*

Concerning teachers' practice of adapting physical education activities for PWLV, the result shown on table (9), indicated that the majority of pupil with low vision 24 (80%) showed their disagreement; while 4 (13.3%), showed their agreement and the rest of them 2 (6.7%) rated as undecided about the presence of adapted physical education for pupil with low vision that is different from their peers who have total blindness. Furthermore, it was observed that during physical education period in the field, PWLV were given the same physical activities as that of pupil with total blindness. This indicated that there is no any adaptation of physical education for PWLV. During FGD, physical education teachers pointed out that they were not adapting activities to help PWLV to benefit from the exercise by improving their physical fitness directly and using their residual vision indirectly.

**Table 9. Availability of Counselling Services and Participation of Pupil with Low Vision**

1. You have received counselling services which is different from pupil with total blindness

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly Agree	2	6.7%
Agree	2	6.7%
Undecided	4	13.3%
Disagree	7	23.3%
Strongly disagree	15	50%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

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## 2. Your teachers encourage you to participate actively in and outside the class room activities

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Scale	Fr	%
Strongly Agree	2	6.7%
Agree	4	13.3%
Undecided	1	3.3%
Disagree	7	23.3%
Strongly disagree	16	53.3%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

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As shown in the above table (9) the majority of the participants 22 (73.3%) explained their disagreement; whereas 4(13.3%), showed their agreement and 4 (13.3%) of them rated as undecided for the issue which states that whether people with low vision received counselling services that is different from pupil with total blindness. Furthermore, during FGD, participants also confirmed that there was no any kind of special counselling service specifically provided by school counsellor for pupil with low vision by considering their educational needs. In this regard, the school principal also stated in such way:

*“There is one room for counseling services for all pupils .However, there is no school counsellor. As a result of this, there is no any counselling service for pupil with low vision.”*

With regard to active participation of PWLV, the majority of participants 23 (76.6%) showed their disagreement while 6 (20.0%) showed their agreement and only a small proportion 1(3.3%) indicated undecided on the idea whether their teachers provide opportunities for them to participate actively in and out of the classroom. Therefore, the result indicated that the majority of the participants were not provided for chances to participate actively in and out of the class rooms. Furthermore, observation of the classroom lesson indicated that PWLV were not participating actively on educational tasks compared to pupil with blindness.

**Table 10 Condition of Physical Environment, Library and Resource Room**

1. Your school physical environment is accessible to you

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	14	46.7%
Agree	9	30%
Undecided	2	6.7%
Disagree	3	10%
Strongly disagree	2	6.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

2. Your school library is equipped with the necessary resources for you such as large print books and reference materials

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	2	6.7%
Agree	3	10.0%
Undecided	2	6.7%
Disagree	10	13.3%
Strongly disagree	13	43.3%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

The physical environment of the school was one of the issues investigated in the study. As it can be observed from the above table (10), 5 (16.7%) of the pupil with low vision reported their disagreement and 23 (76.7%) showed their agreement; whereas, 2 (6.7%) rated undecided. The result showed that, the majority of the participants responded their school physical environment was good. On the other hand, according to the information obtained from FGD, indicated that the physical environment of the school was somehow good. Since, it is established by considering the needs of students with total blindness, it has some physical barriers. Furthermore, according to the observation made outside the classroom it is difficult to conclude as the school is absolutely appropriate for PWLV. There is no any modification and adaptation of the physical environment of the school to meet the needs of pupil with low vision .Therefore, there are breaks and physical barriers.

As indicated in the above table (10), the response of the pupil with low vision on accessibility of printed materials in the library was the as follows. Accordingly, 23 (76.67%) of the participants revealed their disagreement; whereas, 5 (16.7%) of them showed their agreement and 2 (6.7%) of the participants rated undecided regarding the presence of books and other large print materials in the library. Furthermore, the observation made showed that there are no print materials in library for PWLV. All the available materials were designed and prepared for pupil with total blindness in the form of Braille. Furthermore, in the open-ended questionnaire part, PWLV expressed their worries, concerns and further dissatisfactions with the absence of print materials which led them to loss of eagerness for learning in general and reading in particular.

With regard to the availability of resource room with enough devices for PWLV at the School, the result of the study confirmed that the resource room is supplied with adequate low vision devises. However, it was not effectively utilized by teachers as a result the devices in the resource room were simply shelved. Concerning this, one of the female participants who had 33 years of teaching experience stated the presence of well organized resource room with adequate materials;

*‘Even though there are a lot of devises on the resource room, we do not use it properly. If we could not use it and help these pupils, it is worthless. Our problem is not on the resource room, but on the practical utilization’.*

**Table11. Provision of Trainings for Pupil with Low Vision**

1. You received short term training in relation to how to use your remaining vision.

Scale	Fr	%
Strongly agree	2	6.7%
Agree	1	3.3%
Undecided	1	3.3%

Disagree	17	56.7%
Strongly disagree	6	30%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

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2. You received training on how to utilize low vision devices effectively

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<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	1	3.3%
Agree	2	6.7%
Undecided	4	13.3%
Disagree	10	33.3%
Strongly disagree	13	43.3%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

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3. In your school you receive specialized orientation and mobility training

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<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	1	3.3%
Agree	3	10.0%
Undecided	1	3.3%
Disagree	8	26.7%
Strongly disagree	17	56.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

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PWLV were asked whether the school provides them training on how to use their remaining vision. As depicted on table (11), most of the participants 26 (86.7%) showed their disagreement while 3 (10.0%) of them showed their agreement and the rest of them 1 (3.3%) rated as undecided. In addition to this, during FGD, teachers stated that there is no any kind of training for PWLV to use their remaining vision. Therefore, pupils with low vision do not use their residual vision for their educational task as well as daily living.

Availability of training on how to use low vision devices was another issue raised for PWLV. The result as observed on table (11) showed the majority of the learners 23 (76.6%) reported

their disagreement. While only 3 (10.0%) showed their agreement and the rest 4(13.3%) rated undecided. Thus, it can be observed that the majority of the participants believed that as they are not given any training on how to use low vision devices. Furthermore, during FGD session, teachers revealed that even though there were optical and non optical devices in the school, there was no any training for pupil with low vision to use the devices wisely. This indicated that PWLV are not beneficiaries from the available devices.

With regard to availability of special orientation and mobility training, the data on table (11) indicated that 25 (83.0%) of the pupils replied their disagreement; where, as 4 (13.3 %) showed their agreement and the rest 1(3.3%) rated undecided. In addition to this, during FGD session, it was indicated that, the school provides orientation and mobility training for PWLV. However, it was not different from total blindness.

**Table 12 Availability of Functional Vision Assessment and Regular Eye Examination**

1.You have received functional vision assessment in your school

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly Agree	1	3.3%
Agree	3	10.0%
Undecided	1	3.3%
Disagree	7	23.3%
Strongly Disagree	18	60%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

2.You have received regular eye exam in your school

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly Agree	3	10.0%
Agree	1	3.3%
Undecided	5	16.7%
Disagree	9	30%
Strongly disagree	12	40%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

With regard to the presence of Functional vision assessment test for PWLV at Sebeta Special School, the result on table (12) indicated that the majority 25 (83.3%) of participants showed their disagreement; whereas, 4 (13.3%) showed their agreement and 1 (3.3%) rated as undecided. This indicated that there is almost no functional vision assessment for PWLV. Similarly, the FGD made with teachers confirmed that there is no functional vision assessment for PWLV in the school. However, four years ago, PWLV had received assessment by expatriate and local Ophthalmologist. The assessment was aimed at identifying PWLV from that of pupils with the total blind.

Availability of regular eye exam was also posed for respondents. The data presented on table (12) showed that the majority 21 (70%) of participants showed their disagreement while 4 (13.3%) showed their agreement and 5 (16.7%) of the pupils rated undecided on the item whether they had checked regularly their eyes by ophthalmologists. This indicated that most of the pupils had not received regular eye examination. During the interview session, the school principal confirmed that PWLV sometimes receive eye exam and get some kind of medical support by eye Doctors who came from CBM (Christian Blind Missionary)-Ethiopia, LINESCLUB and Spain .In addition, an Ethiopian Ophthalmologist who works at Yekatit 12 hospital visits the school to give medical support for PWLV. However, it was revealed that the visit was not done on regular bases.

**Table 13 Availability of Referral System and Conduciveness of Class Room Environment**

1. In Your school there is referral system to pupil with low vision regular school

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	1	3.3%
Agree	1	3.3%
Undecided	3	10.0%
Disagree	11	36%
Strongly disagree	14	46.7%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

2. In your school the class rooms are conducive for teaching learning process

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	2	6.7%
Agree	2	6.7%
Undecided	2	6.7%
Disagree	6	20%
Strongly disagree	18	60%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

Concerning the availability of referral system for PWLV, the data on table (13) found that 25 (83.3%) of the Participants disagreed saying there is no referral system for pupil with low vision to regular schools. On the other hand, few of the participants 2 (6.7 %) agreed and still the rest 3(10.0%) rated as undecided. Therefore, the result clearly articulated that there is no chance of being referred to regular school for PWLV even for those who have useful residual vision.

Furthermore, during the FGD session with teachers, it was explained that, there was no referral system for PWLV. The reason for the absence of referral services was due to student's opposition to be referred as most of them do not want to be transferred to regular schools. The

cause of their lack of interest was mainly related to their poverty. As evidence, at the time of admission, every student should have a certificate from his\her “Kebele” which indicated that he/she is poor. Hence, these children should be either from a poor family background or orphan. In addition to this, there is no referral system in the school. In this regard, one of the participants narrated the following;

*PWLV were assessed two years ago by ophthalmologists who came from Spain. The result showed there are some students whose visual ability is above 75%. As the result of this, they were suggested to be placed in regular schools with some kinds of support. However, this was not put into practice because of absence of referral system in the school and disinterest of PWLV to be referred. I think they had fear that if they are referred to regular school, they assume that the services (dorm, meal, clothing and monthly allowance) will be suspended automatically. This is also true and I believe their concern is logical.*

As indicated on the same table, regarding the conduciveness of classroom, it was found that 24 (80%) of the participants showed their disagreement. On the other hand, 4(13.4%) showed their agreement and still 2 (6.7%) are responded as undecided. Therefore, from the above figure one could easily see that the class rooms at Sebeta Special School for the Blind are generally not conducive to carry out the teaching learning process smoothly. Furthermore, observation was made to check the state of classrooms for PWLV. Accordingly, most of the classrooms did not meet the expected standard for PWLV. Specifically, the classrooms were not attractive; there are no pictorial aids and illustrations as well as learning corners, no adequate lightning, lack enough

space for movement so that PWLV could not learn comfortably through multisensory approaches.

The qualitative data also confirmed that even though one of the important elements in the teaching learning process of a given school system is conduciveness of the classrooms, it was agreed by participants that the classrooms were not conducive for teaching learning process particularly for PWLV.

#### **4.5.3. Educational Opportunities of PWLV in Sebeta Special School**

One of the purposes of this study was to investigate the educational opportunities of PWLV at Sebeta Special School for the Blind. Since, the educational challenges are discussed above; hereafter, the possible opportunities will be highlighted.

As seen earlier on the challenges part, PWLV are not given opportunities to learn through their residual sight and the majority of them confirmed that they use Braille extensively and were forced to use only brail as their primary modality for instruction and are brail dependent. However, contrary to the above finding, it was agreed by majority of the teachers (8) that even though PWLV use brail extensively, it has its own advantage. This is especially true for those who have progressive sight problem. In addition to this, the school principal had a firm idea and believes that it is unethical to enforce PWLV to use only brail as a primary modality. For that matter, she acknowledges the above idea and she narrates the following story about one girl with progressive low vision in her own words as follows:

*Meselech (pseudo name) was admitted to our school in 2000EC. She is now in grade five. At the time of admission, she had a medical certificate about her blindness. However she had limited vision. Her vision was decreasing from*

*time to time. Finally she lost her sight absolutely. However, now she learns without any difficulty by using brail. This is the main advantage of brail.*

Therefore, even though using Braille extensively without their wish is seen as a major challenge PWLV encounter, it was at the same time considered as an opportunity as it is very ideal for pupils who have progressive eye condition.

**Table 14 Availability of resource Room with Enough Low vision Devices**

1.In your school there is resource room with enough devises for low vision

<b>Scale</b>	<b>Fr</b>	<b>%</b>
Strongly agree	18	60%
Agree	6	20%
Undecided	3	10.0%
Disagree	3	10.0%
<b>Grand Total</b>	<b>30</b>	<b>100%</b>

As far as the availability of resource room with enough device, the data presented on table (14) revealed that 3 (10.0%) of participants showed their disagreement; whereas, 24 (80.0%) of the participants showed their agreement and 3 (10.0 %) of them revealed undecided on the issue of availability of the resource room with enough devises. Furthermore, during the interview and FGD session, the participants revealed that they had common idea on the availability of resource room with a lot of low vision devises supplied by different Governmental and Non Governmental Organization. In relation to this, the school principals narrated in the following way:

*“The school has linkage with different NGOs and GOs. As the result of this, many organizations give financial, materials, professional and technical support to the school as well as to the*

*pupils. Therefore it could be the good opportunities to give appropriate educational services for PWLV.”*

The other opportunities of PWLV is that they are sometimes given eye examination by ophthalmologist came from GO and NGO. However, the eye exam was not given regularly. The qualitative data indicated that, even though there are no formal educational services for these pupils in the school, the school now is trying to help pupil with low vision to identify letters, writing and reading skills through their remaining vision by preparing tutorial class. Concerning this, the school principals stated the following in her words;

*I should not lie. If I do so, the misery of PWLV will not be resolved; hence I have to be honest and we do not provide large print materials for them. They are underrepresented and their issues are not prioritized. These days, we are trying to launch reading and writing program for pupil with low vision every Monday and Thursday from 9P.M to 11P.M in the form of tutorial classes. Yet they do not learn their formal classes with print media. Therefore, I believe that a lot should be done.*

Similarly, during FGD session the participants revealed that there are few committed teachers. They explained that before five years ago, one teacher out of his good will had started to teach reading skill for PWLV by providing large print materials. Meanwhile, there was astonishing progress and PWLV started to read large prints such as cover pages of book and other boldly written materials. However, this attempt was suddenly suspended with an unknown reason.

The other opportunity was the availability of one itinerant teacher and the school teachers who received short term training on low vision and who have an experience in teaching pupil with

visual impairment. In relation to this, the participants revealed that during FGD session, all most all teachers who teach those pupils received low vision training. However it was not enough.

## **CHAPTER FIVE**

### **5. Discussion of the Major Findings**

As it is indicated in the earlier chapter, the purpose of this research was to identify pupils with low vision and asses their educational challenges and opportunities at Sebeta Special School for the blind. This section deals with analysis and interpretation of the data collected through questionnaires from PWLV, focus group discussion with teachers, observation (in and out of the class room) and interview with SNE experts and school principals. Therefore, in this section, the

result is discussed in accordance with the major research questions set for the study under chapter one.

### **5.1. Characteristics of participants**

PWLV who are at Sebeta Special School for the blind in the academic year 2013/14 were the major participants. As to their age distribution, it is found that almost half of the participants were above age of 18. This implies that their age was not to be the expected age and grade level standard set by Ministry of Education to the second cycle. This probably, indicates that these students are either victims of grade repetition or enter the school lately. The qualitative data also support the result and confirmed that, PWLV are admitted to the school with an appropriate age i.e. age six. However, they are not completing their education in the expected time as they repeat classes. Furthermore, it was also hypothesized that PWLV may conceal their real age at the time of admission.

With respect to their sex distribution, the majority of the participants were males while the small percentages were females. This indicates that there is gender disparity in access to education by female learners with low vision compared to their counter male learners with low vision at Sebeta Special School specifically in the second cycle.

With regard to the onset of impairment, the majority 21(70%) of the cases had acquired. However, the remaining are congenitally low visions. This finding contradicts with the existing literature. Although the causes of low vision in children vary between different regions in the world, it can be caused either by congenital or acquired. However, some studies (WHO, 2007) suggested that low vision in children is mostly caused by congenital or hereditary. This inconsistency may be due to the fact that there are limited eye care services and few experts in developing countries like Ethiopia. And, there are also preventable eye diseases leading to

acquired low vision at a higher rate. In relation to this, ORBIS Ethiopia (2011) and Ministry of Health (2007) reported that Ethiopia is especially impacted by a high prevalence of trachoma—a highly contagious but completely preventable eye disease that can result in acquired low vision or blindness after years of repeated infection. However, as this study is conducted only in one school, it may not show the whole picture of the country. Therefore, further investigation and comprehensive studies need to be done in this regard.

The data showed that the number of PWLV decreased as their grade level increases. This probably suggests that these pupils may have problems in perusing their education continuously. However, the actual reasons for the decline of their number need further investigation.

## **5.2. Assessment Result of PWLV at Sebeta Special School for the Blind**

One of the major objectives of the study was to identify PWLV who are currently attending their education from grade 5-8. This was done intentionally to assure the real presence of PWLV in the school and to further investigate and closely scrutinize their educational challenges as well as opportunities if any. To administer self-reported functional vision assessment, the researcher initially used teachers' nomination. In relation to this, Smith and Tyler (2010) reported that functional vision assessment can be a complicated task. To reduce this, information must be gathered from multiple sources, for instance, from teachers of pupils with low vision, from pupils with low vision themselves, from parents of PWLV and others. Due to the above notion in mind, the researcher used teacher nomination as a source of believing that they have adequate knowledge about PWLV, know their strengths and weaknesses as well. This would help to make the assessment result more reliable.

The assessment result revealed that out of 34 students who have believed to have potential low vision by their respective teachers, 30 of them were screened and identified as having low vision from a total of 167 pupils with visual impairment in the second cycle. This perhaps indicates that there could be even more significant number of PWLV in this school who remain unnoticed by their teachers as any functional assessment has not been undertaken. In relation to this, AFB (2006) reported that approximately 90% of the individuals with visual impairments have functional vision and that just 10% are functionally blind. This implies that the prevalence rate of low vision is significant. Similarly, Corn and Koenig (1996) also stated that between 75%-80% school age children with visual impairment who have some useful vision are enrolled in special school for the blind. However, in many parts of the world, these children are rarely encouraged to develop the use of their low vision and their existence is often ignored by educational staff.

As can be seen from the above discussion, there are quite significant number of PWLV under the category of pupil with visual impairment. Therefore, it is important to make functional vision assessment using multiple resources and identify pupils who have the potential to use their remaining vision so as to provide appropriate educational service. Hence, functional vision assessment should be a prerequisite for delivering educational services. However, this was found to be a serious challenge at Sebeta Special School for the Blind which needs to be addressed.

### **5.3. Educational Opportunities and Challenges faced by Pupils with Low Vision**

A good Physical environment is vital in supporting children's development and learning. Therefore, the physical setup of the school was one of the issues investigated in the study. In this regard, the majority (76.7%) of participants rated the physical environment of the school as suitable. The qualitative data also confirmed that it was somehow good. This is because the

school was built for students with total blindness and most of the physical settings of the school are relatively free from physical barriers. However, it was observed that the school environment was not appropriate for pupil with low vision; hence, it needs modification as PWLV needs different physical setups that suit to their particular needs. For instance, it was observed that the toilet was dark. The play grounds are not colourful and the doors were not painted in a contrasting colour to be easily identified. In relation to the physical environment, Lewis & Doorlag (1995 ) and Pagliano (1998) recommended that, children with low vision need their environment to be arranged logically and consistently, with floor surfaces plain and matt to avoid glare. Walls should be painted in contrasting colors to highlight their location and changes in floor levels signaled well in advance by texture or color changes. Furthermore, doors should be left open or closed, but not ajar and the play grounds also should be free from barriers. In addition, these children tend to require double illumination than the usual levels but with glare-reduced lighting so that, shadows do not create visual confusion.

With regard to classrooms, the majority (80%) of the participants assured that, the classrooms were not conducive for them. Furthermore, observation was made to check the state of the classrooms. Accordingly, most of the classrooms did not meet the expected standard for PWLV as stated in the literature. Specifically, the classrooms lack adequate lightning, no blackboard or whiteboard and there was no enough space for movement. Generally, the classrooms were not attractive; there are no pictorial aids and illustrations as well as learning corners so that PWLV could not learn comfortably through multisensory approach.

The qualitative data also confirmed that even though one of the important elements in the teaching learning process of a given school system is conduciveness of the classrooms, it was agreed by participants that the classrooms were not conducive for the teaching learning process

particularly for PWLV. Hence, the classrooms need to be modified by considering the educational needs of pupil with low vision.

In this regard, studies showed that the layout of the classroom, the positioning of furniture, seating arrangements, and the location of specific areas for specific activities, the arrangements of displays and the reduction of distraction are important features of the classrooms that positively or negatively affect the education and participation of pupils with visual impairment. For instance, Farrell (1990) suggested that the organization of classrooms should be safe and easy accessible. Additionally, Kircher & Diamant, (1999) stated that classrooms should contain various equipment and learning devices such as magnification, specialized lighting, audio support, portable reading devices, large key calculators, large print or magnified screen, high contrast and brightly colored wall as well as colorful furniture.

One of the most important inputs for the teaching learning process is the presence of well organized and equipped library with materials in accessible formats for all students. However, the finding of this study revealed that there were not printed books and other materials in the library for PWLV. The qualitative data generated via observation further asserted that the library was totally inconsiderate for the educational needs of PWLV and it was filled with Braille books. Hence, there was no any print material. This was mainly because the service provided in the school is designed and targeted for those students who are totally blind. Hence, most facilities including reference books in the library were either not appropriate or absent for PWLV. Corn and Koenig (1996) however, stated that the educational needs of pupil with low vision should not be restricted only by the non-visual senses. Rather they have to read printed materials.

Therefore, from the above condition it is safe to say that the printed material needs of PWLV at Sebeta Special School are ignored. On the same way, PWLV complained of and showed their dissatisfaction on open ended questionnaire. Obviously, this issue needs proper intervention.

Resource room is an important room in special school, which is equipped with special materials for inspiring learning for learners with special needs (MoE ,2012). With regard to the presence of resource room with appropriate and sufficient low vision devices, it was found to be adequately available. The result also showed that almost all of the participants admitted the presence of low vision devices in the resource rooms. It was also reported that the school received enough specialized low vision materials from donors; there was no shortage of low vision devices. This is appreciable and a good opportunity for the school to provide appropriate educational services for PWLV. However, the state of properly utilizing these resources is found to be problematic. To elaborate the idea, although there are sufficient low visions devices in the resource room, there was serious problem to utilize the materials by teachers and PWLV due to various reasons. Among them, one is the factor related to the school. This means that PWLV were not encouraged to utilize and are not given trainings on how to use low vision devices effectively.

The study confirmed that the majority (76.6%) of PWLV had not received any kind of training aimed at utilizing the devices. However, the World Health Organization (1992) stated that, children with low vision may have special educational needs for devices and materials and should be given trainings on how to utilize devices. Hence, PWLV may not show progress without a special training. Mason and McCall (1997) also stated that training in the use of both optical and non optical low vision devices must be given to the child in order to meet the needs of pupil with low vision and that they may use the devices to its fullest level. From this point of

view, one can infer that in order to meet the needs of these pupils, they should obtain low vision devices and appropriate training.

Generally, it was found that there are sufficient low vision devices in the resource room. However, the mere presence of the resource room with sufficient materials and devices does not guarantee their effective utilization. In relation to this, one of the participants stated the following during FGD session;

*‘Even though there are lots of devices on the resource room, we do not use it properly. If we could not use, it and help these pupils, it is worthless. Our problem is not on the resource room, but on the practical utilization’.*

This is absolutely unacceptable and paradoxical as the situation reminds the Ethiopian proverb which says “የ አባይን ልጅ ወህ ጠጥው” which can be translated as “the son of Blue Nile gets thirsty”. This means that while there are more than enough low vision devices in the resource room, PWLV are devoid of learning using the devices and are not given opportunity to manipulate them.

This is major area that needs appropriate intervention. This means that PWLV should be given opportunities to use the devices and should be trained to develop the practical skill on how to use the devices. If not, it is wastage of resources as the materials and devices are shelved and some put into locked boxes. This further creates hindrance for PWLV not to use their residual vision for the teaching learning process.

With regard to regular eye exam, the majority (70%) of participants claim that there is no eye exam on regular basis. Although there are some eye examinations done by expatriate and local ophthalmologists, they did not do in a planned manner and are irregular. This implies that the eye

exam was not continuous and has an on and off nature. However, regular eye exam plays a significant role particularly in the education of PWLV. In relation to this, Corn et al.(2003) stated that there are a number of related services that are essential for education of PWLV. Among these, regular eye examination is the one. Similarly, Thompson (1998) also suggested that, PWLV should receive regular eye examinations to monitor their eye infection or diseases if any. Accordingly, it is helpful to provide regular eye examination for PWLV at Sebeta Special School to prevent further complication of their eye condition and improve their educational outcome.

Regarding functional vision assessment test, the finding indicated that there was no any functional vision assessment test in the school. The qualitative data also confirmed that, these pupils do not receive functional vision assessment. However, it was reported that, four years ago PWLV had received assessment by expatriate and local Ophthalmologist. The assessment was aimed at identifying PWLV from that of pupils with total blind. Nevertheless, the assessment was geared towards medical approach which has little implication for educational activity. This is because, a child identified as blind medically may not be so educationally and most of children considered totally blind medically, may have useful vision. Supporting this, 371-90 HEW 2009 sebeta).stated that many students who are medically blind are not considered educationally blind. Dickinson (1998) also stated that this is because the interpretation of low vision and blindness is quite different educationally and medically.

Similarly, Friend (2010) stated that the medical definition of visual impairment has little relationship with educational definition. And it is not very useful for describing what a person can or cannot do. And for those children who have residual vision, it is widely acknowledged that medical descriptions of visual impairment (based on a clinical assessment of visual function) do not provide an accurate indication of how the child is able to use their vision for functional

activities, Because of this, the medical definition of low vision often lacks of meaning for educators. This shows that there is a gap in the assessment practice at Sebeta Special School for the Blind particularly the functional vision assessment to identify PWLV and it was inclined to the medical aspect. Consequently, PWLV at Sebeta Special School are not assessed functionally and not provided appropriate educational intervention.

At the time of data collection, it was also understood that there is absence of functional vision assessment tools developed nationally as stated by special needs education expert at MoE. However, the expert revealed that these days there is an effort under a project carried out to develop local functional vision assessment instrument by Ethiopian Special Needs Association (ESNEPA) in collaboration with the Ministry of Education (MoE).

In fact, the absence of nationwide functional vision assessment tool was raised by teachers as an underlying cause for the mislabelling and mistreatment of PWLV as totally blind. As the result of this, most PWLV are ignored with their educational needs being unmet. In relation to this, Sillver & et al, (1995) and WHO (1992) stated that children with low vision are often miss-considered by the absence of appropriate functional vision assessment tools and undereducated because they are neither blind nor sighted. Consequently, the majority of students with low vision are enrolled in schools without any functional vision assessment and appropriate low vision educational services.

From this point of view, one can say that the absence of functional vision assessment is the central problem for education of PWLV. Therefore, SNE experts and other concerned others have an assignment to develop and provide functional vision assessment tool so as to provide appropriate educational service for pupil with visual impairment in general and for pupil with

low vision in particular. Hence, it is high time for special needs experts and concerned others in the country to either develop or adapt a functional vision assessment tool that considers the local realities so that schools could use it to identify and provide appropriate educational intervention for PWLV in the future. The fact that there is no any functional vision assessment practice available for PWLV, makes it difficult to provide training based on the assessment results.

Similarly, in this study, the majority (86.7%) of PWLV also indicated that the most difficult problems they face were the absence of training about how to effectively utilize their residual vision to the maximum level they could. School teachers stated that, even though they received short term training on low vision, it was not enough .As the result of this, they could not provide any training for PWLV to use their remaining sight as well low vision devises.

Among various trainings for PWLV that aimed to improve their daily living and academic condition, specialized orientation and mobility training are one. Ambrose & Corn (1997) supported the above idea and stated adapted orientation and mobility trainings are an essential component in the educational services delivery system for pupil with low vision and it has a great positive impact on the academic performance of children with low vision. Similarly, Wilson (2003) also suggested that adapted instruction in orientation and mobility skills can also help children with low vision to make use of their residual vision and increase their ability to explore and move independently.

However, the reality at Sebeta Special School was opposite to the above literature and PWLV do not received adapted orientation and mobility training. The qualitative data indicated even though orientation and mobility training is offered by the school for all pupils with visual

impairment, it was not specially designed or adapted for PWLV. Hence, they are receiving the training which is not designed for them.

Therefore, from the data obtained, it was found that there was no specialized O&M training for PWLV at Sebeta Special School for the blind. Hence, this area needs attention as adapted O&M training is vital for independent life.

Another hindrance identified in this study was absence of referral system in the school. The result showed that there is no any referral system in the school. Additionally, the qualitative data revealed absence of referral systems was common educational challenges of children with low vision. It was reported that, four years ago, eye examination was made by ophthalmologists and the result confirmed that among pupil with visual impairments, some of them were found to have adequate and meaningful residual sight that enable them use their vision for learning. More specifically, the assessment result showed that some students were found to have above 75% visual ability. Accordingly, these pupils were recommended to be placed in regular school by experts. However, it was not realized due to tow major reasons. One is absence of referral system in the school and the other is strong opposition from student's side. The qualitative data indicated that PWLV in this school are either from poor families or orphans and were expected to bring evidence from their Kebele. As a result, they have strong worry and threats to be referred to regular schools fearing that special services (dormitory, meal, cloth and pocket money) will be terminated if they are referred to regular schools.

Arguably, there should be a referral system and those who have meaning full remaining vision should be placed in the nearby regular schools with the necessary educational support and facility together with other benefits they had received while they were in the special schools so

that, PWLV attend their education in regular schools and come back to their dorms. In fact, this may not be the best solution. Therefore, if it is possible, it is better to place them and let attend their education in their locality living with their parents or caregivers with appropriate and comprehensive support. However, it is important to make necessary preconditions and adjustments in regular schools before referring these pupils. In doing so, close follow-up and monitoring should be there to find out the progresses and possible obstacles.

Pupils with low vision were asked whether they were considered as if they are totally blind by their teachers. The response rate indicated that the majority of PWLV were considered as blind by their teachers. The interviewees also revealed that all students at Sebeta Special School are admitted with the name blind. As a result, there is wrong generalization that all students admitted at the school are blind.

From the above discussion it is possible to say that teachers are not giving recognition for the presence as well as diverse needs of these children. In relation to this, Kirk et al (1995) stated that the real problem of pupil with low vision is not their limited ability of visual functioning. Rather, the difficulty is on the misunderstanding of the educators. Similarly, AFB (2012) stated that most of children with low vision are often overlooked in the population of children who have total blindness. However, it is vital to differentiate between blindness and low vision as these two categories are distinct and have their own special educational needs. There is bulk of literature that confirms the difference. For instance, WHO (1992) stated that there is individual difference and the distinction between the groups are not only between children who are blind and low vision, but also among children with low vision. This is because the effects of low vision are not the same for all. Similarly, Upadhyya and Singh (2008) confirmed that children with low vision need not, and should not, be educated as if they are totally blind. Hence, children

with low vision must utilize their vision as an important channel of learning contrary to the totally blind that have to rely on senses than vision. Cognizant of the above reality, it is quite imperative that PWLV should be educated by considering their educational needs and functional visual ability.

Contrary to the above literatures, PWLV were seen as blind by their teachers and the school. Since, there is a widely held belief by the school community that the school is originally constructed for the blind; it is assumed that anyone who is admitted to this school is blind. Additionally, these pupils are receiving their education as pupil with total blindness. Even though the school is meant for the blind, the population of students with visual impairment is so heterogeneous that it is impossible to identify educational services that apply to the entire population. Students' needs differ depending on the eye condition, age of onset, level of vision, the presence or absence of early interventions, and other disabilities. Therefore, the Sebeta Special School and teachers should recognize the presence of significant number of PWLV in the school and respond their specific educational needs.

Regarding teachers treatment for PWLV, most of the participants revealed that teachers are not treating them equally with that of students who are blind. Teachers also admitted the fact that they do not see PWLV in equal eyes with those peers who are totally blind. However, this condition was not because of their being low vision. Rather it was due to the undesirable behavior of PWLV which was explained by their teachers as disruptive, lack of attention, staring at the window and excessive play during the teaching and learning process. Concerning this, one of the participants narrated the following:

*Most of pupils with low vision have no good behavior. They are always disturbing the class room, aggressive and bullying other students. Because of*

*this, sometimes we showed negative feeling to them; when we see their disciplinary file, they had relatively repeated record than their peers who are totally blind. However, we try our best to treat all students including those who have low vision equally with students who are blind.*

Concerning this, Mason and McCall (1997) stated that, low vision on some children can cause misbehaviour of a child. However, this condition related with those who work with them. It can also be because of their environment and teachers, peers, or other things but not their limited visual ability. This may have adverse effect on the educational journey of these children.

Generally, the current study confirmed that, in most cases PWLV were not liked by their teachers; they were treated unfairly because of their misbehaviour. Therefore, instead of simply labelling these pupils as disruptive, teachers and the school should pinpoint the underlying causes for their misbehaviour and take measures to prevent or minimize the problem as much as possible. Unless measures are taken, the success of PWLV will be unthinkable.

With regard to utilization of residual vision, Barraga (1985) stated that children with visual impairment should be encouraged to use their residual vision at classroom and at play. However, it was found that PWLV were not encouraged by their teachers to use their remaining vision. At the same time, the qualitative data revealed that teachers were not supporting the idea of learning by residual sight. This was partly because teachers believe that this could deteriorate their remaining vision. As a result, teachers were not encouraging these pupils to use their limited vision and PWLV were not given an opportunity to use the remaining vision for reading. Concerning this, Kirk et al. (1995) stated that, teachers and significant others discourage children with low vision from using their residual vision for educational advancement. They still believe

strongly that sight can be saved by not using it to perform visual tasks in the classroom. And the use of vision in performing visual school tasks may cause it to deteriorate and lead to total blindness.

Amazingly, while observing in the classroom, PWLV were seen reading dots in their Braille paper and were able to read the dots with their vision easily as opposed to their blind friends who used to read the Braille dots tactilely. This can be evidence that they have useful vision for reading and have a keen interest to learn by reading printed materials. Additionally, this tells us that if these pupils are given opportunities to use their vision effectively, they will be benefited a lot. Therefore, this is a fertile ground the school and teachers can exploit by creating conducive environment to use their remaining vision in an effective way by encouraging and providing opportunities them to utilize their vision for the teaching and learning process.

Regarding reading large print materials the majority (76.7%) of participants revealed that teachers do not encourage PWLV to read large print. The qualitative data also confirmed that even though the school administrators and teachers are aware of the presence of these children, teachers do not provide printed materials for PWLV as they carelessly consider them as totally blind.

However, there are some attempts by individual teachers and the school to help PWLV read and write print materials. For instance, one of the school teachers started to teach reading and writing skill for PWLV out of his good will four years ago. Meanwhile, there was surprising progress and PWLV started reading large prints such as cover pages of books and headings of books. However, this attempt was suddenly suspended with unknown reason. Similarly, the principal of the school said the following:

*I should not lie. If I do so, the misery of PWLV will not be resolved; hence I have to be honest and we do not provide large print materials for them. They are underrepresented and their issues are not prioritized. These days however, we are trying to launch reading program for students with low vision every Monday and Thursday from 9P.M to 11P.M in the form of tutorial classes. Yet, this practice is not implemented in classroom teaching learning process. But I believe that this is not enough and a lot should be done.*

The above efforts by the teacher and the school are appreciable and central in enabling PWLV to read and write using their remaining vision. However, the reading program arranged by the school is not well organized, applicable to the classroom and the time allotted is insufficient. Moreover, the sustainability of such programs is uncertain. Therefore, such programs should be implemented in classrooms and in continuous bases.

The study also found that the school is not catering to the needs of PWLV by allowing various options of learning modalities depending on their degree of impairment and their needs. As a result, these pupils were forced to use only Braille extensively as their primary medium of instruction. Regarding this, the school principal said the following;

*“We provide Braille as the primary medium of instruction for PWLV. This is because all pupils in this school had a medical certificate which indicated that they are totally blind by ophthalmologist. Based on this, we provide only Braille and students use it as primary medium of instruction”.*

It was also found that PWLV were not benefiting from Braille as they are learning not willingly. On the other hand, there is no any effort geared towards using their residual vision by providing them large print. Ultimately, they are forced to be Braille dependant. At the same time, it was understood that PWLV have a keen interest to learn via their vision using large prints. However,

this option is completely blocked. PWLV were seriously disappointed by the use of Braille extensively out of their will so that, some of them wish if they could be totally blind and never think of using their vision . For instance, one of the PWLV stated the situation in the open ended questionnaire in this way:

*It would have been better if I were totally blind. Blind students stick to their  
brail. Hence, benefit much from it. But my situation is different. Since, I have  
“chilanchil” (remaining sight), I do not want to learn only by Braille.  
However, the option of learning through vision is closed. As a result, I and  
my peers who have low vision lag behind academically when compared to  
pupil with total blindness.*

In this study, it was found that teachers were debating and do not have the same stand regarding the use of Braille for PWLV. Hence, the first group supports the use of Braille extensively by PWLV. They suggest if the child is made to learn by his/her sight, it will get deteriorated and further ends up in total blindness. The second group argues the opposite way and they said that the child should use his/her vision as a primary modality and can use Braille as supplementary skill. Their justification for using Braille as a supplementary was particularly related to those who have progressive sight problem. The school principal believes that it is unethical to enforce PWLV to use only brail as a primary modality. However, she acknowledged the positive aspects of using brail from different perspectives. For instance, she explained the experience of one female pupil who has progressive sight problem. According to the principal, this pupil had benefitted a lot from Braille and currently attending her education.

However, it is clear that there is individual difference among PWVI. Therefore, instead of running to force the child learn only by brail, initially, learning media assessment which include whether to teach the child either by brail, large print or both, level of functional vision, his/her needs, the nature (progressive or not) of the condition as well as the severity of low vision should be made. Concerning this, Spungin (2002) stated that making an assessment of learning media is crucial to respond diverse needs of the learner and provides educational support and creates good teaching and learning process. As the same time strong follow up should be made in line with their improvement to make the necessary adjustments.

Adapted instructional materials (eg. colorful materials) are vital and powerful to make learning permanent and long lasting. Accordingly, the study investigated teachers' utilization of adapted instructional materials for PWLV in the classroom. The response indicated that the majority of teachers were not supporting their instruction by various adapted instructional materials particularly for PWLV. According to the observations made in the classroom, the materials teachers using were not adapted to the need of pupil with low vision. That means, all instructional materials utilized by teachers were predominantly suitable for pupil with total blindness and were taught tactilely. In relation to this, Reta (2007) in his study of comparing educational service provision between Sebeta Special School and Shashemene Special School stated that children with low vision at both Schools were not provided adapted instructional materials by their teachers and were educated as though they were blind.

Different reasons were identified for the low status of teachers' utilization of different and adapted instructional materials. One of the reasons was the fact that the school was not creating conducive environment and push teachers to adapt and utilize teaching materials for PWLV. Teachers also consider that adapting instructional materials for PWLV as additional burden. The

other reason exacerbated the problem is that teachers were even not utilizing the already existing instructional materials which are specifically designed for PWLV. Rather, teachers bring instructional materials that are appropriate for the blind and to be learned tactilely. Therefore, the school is expected to assure the utilization of adapted instructional materials for PWLV by teachers and make close follow up. It is also essential that teachers should exert maximum effort and take the responsibility of adapting and selecting the best teaching material for PWLV.

However, several studies showed the importance of adapted instructional materials. For instance, Gross,(1995) stated availability and utilization of adapted materials as well as school facilities is contributing factors in supporting pupil with low vision. Generally, the state of utilization of adapted instructional materials was found to be low and PWLV were not learning by multisensory approach using their residual sight and other senses. The fact that these students are not educated by adapted teaching materials made them not to get the necessary knowledge and skill from the subject matter. This further may affect their educational performance negatively and may lead them to grade repetition and failure.

It is clear that every child has to learn with appropriate teaching method that considers the learning style as well as individual need of the learner. In relation to this, Castellano (2005) Smith and Tyler (2010) stated that students with low vision are constantly challenged by classroom instructional approach because, most of pupils with low vision require adaptation and accommodation to access the general curriculum and succeed at school. Therefore, teachers have responsibility to adapt teaching method and offered practical information.

In this regard, the study found that teachers were not adapting their teaching methodologies for PWLV. Hence, teachers do not adapt teaching methods with respect to the specific educational needs of PWLV.

The approach was also teacher centered and the teaching methods were also tailored towards students with total blindness. PWLV were taught as if they were blind. However, teachers admitted the fact that they lack the skill of instructional accommodation and specific teaching methods for PWLV and, they were doubtful about their teaching efficacy. Therefore, they need to be technically supported how to teach PWLV appropriately. In this regard one teacher stated the following:

*“Most teachers in this school (including me) are general education teachers. So, how can they adapt and modify teaching methods to teach these pupils?” I believe this is difficult. As the result of this, these pupils do not receive appropriate services through adapted and modified teaching methods as their peers who have total blindness”.*

However, Scholl (1986) recommended that teachers of pupil with low vision must know about modification and adaptation techniques of their teaching methods as well as procedures that assist pupil with low vision. Another barrier for the utilization of adapted instructional method is related to wrong assumptions held widely by teachers and the school. This means that PWLV by de facto are seen as blind and consequently, teaching methods are not adapted. Therefore, it can be argued that PWLV at Sebeta Special School are generally neglected. They are struggling to adapt themselves with rigid teaching methods and materials tailored for students who are blind. At this juncture, one could see how the situation is tragic. Due to the denial of their individual identity by the school, teachers as well as other concerned bodies, some of them were on the

verge of accepting the stereotype and mislabeling have already started to act as if they are blind artificially.

The fact that PWLV are ignored by the school and their teachers, make them disinterested in learning in general. Furtherer more, the observation made confirmed that the teaching methods, media, classrooms as well as the whole instructional process in general were inconsiderate of these children. As a result, the classroom participation of these children was seriously paralyzed compared to students with blindness. The participation of PWLV was not only limited to indoor activities but also in outdoor activities as well.

With regard to physical education, Houwen et al. (2009) stated that without physical education, students with low vision may not develop gross and fine motor skills appropriately, including loco-motor skills that are necessary for fitness, wellness, as well as independent living. However, the finding revealed that, physical education teachers were not providing adapted physical education in field activities for PWLV. Due to the repeatedly discussed problem (considering all students as blind) these pupils do not receive any adapted physical exercise activity. In addition, the physical activities and materials were not suitable for those who have limited visual ability. Furthermore, according to the observations made outside the classroom, physical education teachers were not adapting activities, methods and materials for these pupils. Moreover, no environmental modification was made on the play ground for the sake of PWLV.

Generally, PWLV were given the same materials, exercises and activities as total blindness. Hence, teachers were not adapting activities to help PWLV benefit from the exercise so that they are not getting opportunities to improve their physical fitness directly and using their residual vision indirectly. Therefore, in order to make PWLV beneficial from physical education

activities, physical education teachers should make the necessary adaptations based on individual characteristics, level of impairment and the ability of PWLV to improve their physical, mental and social development .They have to encourage them to use their remaining vision for various activities.

## **CHAPTER SIX**

### **6. Summary, Conclusion and Recommendations**

## **6.1. Summary**

This study entitled “Education of Pupil with Low Vision: Assessment, Challenges and Opportunities at Sebeta Special School for the Blind” has twofold purposes. In the first place, the study aimed at identifying those PWLV who are placed and labeled as blind medically at this school using Adapted Functional Vision Assessment Tool (AFVAT). Secondly, investigating educational challenges as well as opportunities of the already identified PWLV at SSSB for the blind.

In order to achieve the study objectives, mixed research design was employed. A total of 50 individuals were participated and generated valuable data for the study. Accordingly, 30 PWLV, 15 teachers, 2 school principals, 1 SNE expert from Oromiya Education Bureau and 2 experts from MoE were included in the study.

In the Oromiya Regional State, there are two special schools for the blind (Sebeta and Shashemene). Among these two schools, Sebeta Special School was selected randomly for the study. In this school there were two cycles which is first cycle (from grade 1-4) and second cycle (from grade 5-8). From this, the second cycle was chosen purposefully with the assumption that PWLV in the second cycle are relatively matured and could better understand and respond to questionnaires than PWLV in the first cycle grade 1-4. With regard to the selection of PWLV, since their number was manageable, all PWLV were included in the study using available sampling technique. Whereas, purposive sampling techniques were employed to select teachers, school principals, Experts at Oromiya Education Bureau and MoE respectively to generate information on the education of PWLV. Various data collecting instruments were developed and used for the study. Among them, Adapted Functional Visual Assessment Tool (AFVAT) was

used with the intention of screening out PWLV from pupils who are blind. Accordingly, from the total of 34 PWLV nominated by their teachers, 30 of them were qualified as having low vision.

In addition, questionnaire was developed and administered for PWLV to gather relevant data on their educational challenges as well as opportunities. The questionnaire consisted 2 open ended as well as 20 close ended items. PWLV were assisted by reader to fill out the questionnaires. Furthermore, guiding questions were used for interview and Focused Group Discussion to generate data from school teachers and principals as well as two SNE experts. Since, it was very important to get insight about the education of PWLV. Observation was also held to enrich and triangulate the data obtained via other data collecting tools. The collected data was analyzed quantitatively as well as qualitatively depending on the study objectives and nature of the data. Descriptive statistics was used to analyze the quantitative data while thematic analysis was employed to analyze qualitative data. Accordingly, the major findings obtained will be presented briefly hereafter.

### **6.1.1 Major findings**

This study has identified different findings which are guide by the research objectives and research questions. Accordingly, in this section, summary of the major findings are presented from the data analyzed and results obtained.

In this study, it was found that there are considerable amount of PWLV who are enrolled and attending their education at Sebeta Special School for the Blind (from grade5-8) along with their peers who are totally blind. However, the result revealed that, the presence of PWLV is not formally recognized by the school, teachers and stakeholders as well. Ultimately, their specific educational need has not been identified and responded. Rather, their diverse need is overlooked

and these pupils were subsumed under students who are totally blind hence, PWLV were considered as if they were totally blind.

As the result of this, there are no any special services geared toward addressing their educational needs. Rather, it was found that the teaching methods, instructional materials, trainings as well as overall services are tailored to fit the realities of pupil who are totally blind. Teachers and the school were not catering the needs of PWLV.

The fact that the presence of PWLV is by and large ignored and remain unnoticed, make their schooling harder and they are at risk of grade repetition. This situation is further worsened as the school continues to proceed the teaching learning process without giving due attention for the educational and other needs of these pupils. Due to the misconception of the school and teachers, PWLV were not encouraged to use their residual sight and further they were obliged to use only Braille as their primary modality for reading and writing. Most of them use Braille extensively instead of using the Braille as supplementary to the large print media as these pupils have useful remaining sight.

Meanwhile, it was found that there is relatively well organized resource room supplied with various optical and non-optical devices donated to the school by different non government and governmental organizations. However, there was a gap in adapting the instructional materials in line with the needs of PWLV and utilize them effectively by teachers. Hence, PWLV were not given opportunities to learn their lesson through adapted instructional materials and the school also does not push teachers to use and adapt them. These all situations were found to be a bit paradoxical. Similarly, although there is a library in the school, it was filled by Braille books.

However, there was no any book in a print format for PWLV. They were not beneficiaries from the library.

With regard to the suitability of the school's physical environment for PWLV, it was found that the physical landscape of the school was found to be somewhat barrier free. However, it needs some modification. The condition of the classrooms was not conducive for these pupils as they have no adequate lightening, colorful pictorial corners, moving space, no appropriate setting arrangement, no blackboard or white board and generally the classrooms were designed and built by considering blind students. Hence, they need modification in such a way that they should be suitable for PWLV as well.

In this study, teachers were found to have lacking the necessary skills to adapt their instruction for PWLV and most of the teachers were not special education teachers. In addition, it was found that teachers mistreated their pupils who have low vision and see these pupils as the one who disturb in the classroom and lack motivation.

Another serious problem identified in the study was the absence of clear guidelines prepared nationally and at school level for the education of PWLV. Lack of functional vision assessment tool was also seen as a major problem in the teaching learning process of PWLV at Sebeta Special School for the Blind. It was found that the admission and placement of PWLV to the school was determined by medical certificate. The view loss of vision in medical perspective is different from educational perspectives. This was raised as a reason by the school not to modify, accommodate the educational needs of PWLV and provide appropriate services for them. Based on the investigation of this study, the major finding was the absence of referral system.

However, there are still some opportunities in the school. For instance, the presence of resource room equipped with optical and non-optical devices as well as teaching aids (though not utilized by students and teachers), commencement of reading program targeted to enable them use their residual vision, the presence of SNE strategy and itinerant teacher were found to be opportunities that could be maximally exploited.

## **6.2. Conclusion**

The major purpose of this study was to identify the pupil with low vision and assess their educational challenges and opportunities at Sebeta Special School for the Blind and to indicate the area in which more efforts are required to provide educational services for pupil with low vision. Accordingly, the study confirmed the presence of PWLV and closely examined their educational challenges as well as opportunities. Apparently, the study concludes that there are a significant number of PWLV who remain unnoticed by the school and teachers. There are some opportunities to provide appropriate educational services such as availability of resource room with enough low vision devices, SNE strategies, itinerant teacher, specific reading and writing tutor class and others. On the other hand, there were lots of educational hurdles lingering around PWLV which needs to be reacted soon. Among others, the mislabelling of PWLV as totally blind, mistreatment of PWLV, inappropriate classroom setup (lack of lightening, moving space, board e.t.c), lack of opportunities to use their residual vision and low vision devices, absence of training and referral system were the forefront problems. Furthermore, absence of functional assessment tool was identified as the major bottleneck. Additionally, the study concluded that, teachers failed to adapt instructional materials and methods in line with the specific pedagogical needs of PWLV due to lack of skill and commitment. This makes the problem more complex and unbearable.

Concurrently, the specific educational needs of PWLV at Sebeta Special School remain unnoticed. Their needs are submerged under the umbrella of blindness. As a result, they were forced to use the same learning materials, medium of instruction (only Braille) and methods that are suitable for the blind. In addition to this, the presence of these pupils in the school was not given formal recognition and their issue has not been given due attention. This is mainly because the school highly relies only on pupil's medical certificate. Generally, instead of adapting itself to the needs of PWLV, the school is forcing them to adapt themselves for the realities and services meant for the blind. As a result, PWLV are struggling to adapt themselves for the existing realities and tragically, some further go to the extent that they act and behave just like as if they are blind. Therefore, the study concludes that unless corrective measures should be taken to curb the problem, the suffering and difficulty of these pupils will continue and their voices remain unheard and their success becomes a nightmare.

### **6.3 Recommendations**

From the lengthy discussions made and the findings obtained, the following recommendations are forwarded:

Since there are a considerable number of PWLV, their issue should come to the front by policy makers, the school, teachers and concerned others so as to recognize the real presence of these pupils and understand their specific educational need that is quite different from pupils who are totally blind.

The MoE, in collaboration with OEB should design pre-service as well as in-service training programs for teachers on the specific educational needs of PWLV; so, that teachers will be

motivated, capacitated and able to address educational needs of PWLV. This could help PWLV lead independent life and use their vision for academic activities and daily life.

The education of PWLV has to be supported and facilitated by utilizing adapted instructional materials and methods specific to their needs. Hence, teachers ought to exert their effort to adapt their method and media in the classroom. For instance, teachers may bring colourful visual teaching materials to the classroom. The school should also encourage teachers to do so.

Classrooms of PWLV need to be conducive and considerate of the specific characteristics of PWLV. Hence, the school needs to modify classrooms in such a way that they have to be restructured to have adequate light, black or white board, colourful and generally attractive. This could be done by searching every possible income generation schemes such as mobilizing the community.

Since, the name of the school is Sebeta Special School for the Blind, however it should be change by Sebeta Special School for pupil with visual impairment, because it admit both pupils with total blindness and low vision so that it can create awareness about the presences of pupils with low vision.

MoE, OEB, NGOs, Disability Associations and scholars have to come together and develop functional vision assessment tools and general guidelines about education of PWLV.

The teachers should made learning media assessment to identify the educational needs of pupils with low vision before providing any kind of services.

As PWLV have useful remaining vision, they should not be restricted to learn only by Braille; rather, they should be encouraged and given alternative learning modalities like large prints so that they could use their remaining vision to the maximum level they could.

Finally, interested researchers could do comprehensive studies on academic achievement of pupils with low vision who learn at Special School for the Blind incorporating more schools and samples so that the findings could be show the existing gap as well as the magnitude of the problem.

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## **Appendix I**

### **ADDIS ABABA UNIVERSITY**

#### **College of Education and Behavioral Studies**

#### **Department of Special Needs Education**

#### **Questionnaire to be filled by Pupil with low vision**

This questionnaire is designed to collect data for the study entitled “Education of Pupil with Low Vision, Assessment, Challenges and Opportunities; A case of Sebeta School for the Blind”. Therefore, the purpose of this questionnaire is to gather relevant data on the, assessment, educational challenges as well as opportunities available at this school. The results of this study, thus, depend on the truthfulness and frankness of your response. The researcher would like to assure you that your responses are strictly confidential. Hence, your cordial response is guaranteed with absolute confidentiality.

Thank you in advance for your kind cooperation!

The questionnaire consists of three parts which are;

1. Demographical details
2. Closed ended items and
3. Open ended items

**Directions; Dear participant please read carefully the instructions below before starting to fill the questionnaire**

1. Writing your name is not mandatory, but if you want you can write your name
3. Note that all questions have equal importance to attain the objectives of the study. Therefore, please try to answer all the questions.

## **PART ONE**

### **1.1. Demographic data of the pupil**

**Please complete the following section by providing answer or putting a tick mark (√) in the box**

Sex..... Age.....

Grade.....

### **1.2 The onset of low vision**

A. Congenital

B. Acquired

## **PART TWO; Questionnaire related to the educational challenges and opportunities of Pupil with low vision**

**Direction: Please for each of the items in the following table; show your level of agreement or disagreement by putting a tick mark (√) on one of the options available**

If you **strongly agree**, put tick mark (√) under SA. **Strongly Agree (SA) =1**

If you **agree** with the statement, put a tick mark (√) under A. **Agree (A) =2**

If you are **neutral** with the statement, put a tick mark (√) under N. **Neutral (N) =3**

If you **disagree**, put a tick mark (√) under D. **Disagree (D) =4**

If you **strongly disagree**, put a tick mark (√) under SD. **Strongly Disagree (SD) =5**

N <sup>o</sup> .	Items	1	2	0	3	4
	<b>Teacher Related</b>					
1	Your teachers considered you as totally blind					
2	Your teachers encourage you to use your remaining vision					
3	Your teachers encourage you to read large print					
4	Your teachers treat you equally with others who are totally blind					
5	You use brail extensively as primary modality for reading and writing					
6	Your teachers use adapted instructional materials help you understand concepts easily					
7	Your teachers modify teaching methods to suit the needs of pupil with low vision					
8	Your PE teacher provide adapted physical education different from pupil with total blindness					
9	Your teachers encourage you to participate actively in and outside the class room activities					
	<b>School Related</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>4</b>
1	Your school physical environment is accessible to you					
2	Your school library is equipped with the necessary resources for you such as large print books and reference materials					
3	You received training on how to utilize low vision devices effectively					
4	In your school you receive specialized orientation and mobility training					
5	In your school the class rooms are conducive for teaching					

	learning process						
6	You received functional vision assessment in your school						
7	You received regular eye exam in your school						
8	There is referral system in your school to pupil with low vision						
9	You received counseling services which is different from pupil with total blindness						
10	In your school there is resource room with enough devices for low vision						
11	You received short term training in relation to how to use your remaining vision						

**Part Three; Open ended items on the educational challenges and opportunities of pupil with low vision**

**Direction: Read the following questions carefully, understand them and then write down your opinion regarding the questions**

1. What are the main **educational challenges** you faced in your school?

.....  
 .....  
 .....

2. What **educational opportunities** do you think are there for you in your school?.....

.....  
 .....

## **Appendix II**

### **Semi-structured Interview Guide for School Principals**

#### **Interview on Functional Vision Assessment, Educational Challenges and Opportunities of Pupil with Low Vision**

The purpose of this interview is to gather relevant and appropriate data concerning on the educational challenges and opportunities of pupil with low vision in Sebeta School for the Blind. The information positioned from you is to provide appropriate services for pupil with low vision. Therefore, you are requested to provide valuable information openly and freely.

Interview date.....Time.....Place.....

Question regarding functional vision assessment, educational challenges and opportunities of pupil with low vision in Sebeta School for the blind.

1. Do you have special needs education background or any training or courses in relation to education of pupil with low vision?
2. Is there pupil with low vision in your school? If your answer is yes, what do you think about their prevalence? And what are the admission criteria of pupil with low vision?
3. Is there special educational provision including functional vision assessment test for pupil with low vision in your school?
4. Are there counseling service, training on how to use their remaining vision and low vision devises for pupil with low vision in your school? If yes, how they are offered? If No, why?
5. Does the school has strong link with non-governmental and governmental organizations as well as the community in relation to the education of pupil with low vision
6. Are there special educational needs teachers in this school? If yes, what are the roles of these teachers in relation to education of pupil with low vision?

7. Is there low vision unit or resource room with adequate low vision devices in your school? If your answer is yes, what specialized equipments are available and what benefits they are giving for pupil with low vision
8. Are there team of professionals in this school to decide the placement of pupil with low vision? If yes what are their role and responsibility in relation to pupil with low vision
9. In your view, what opportunities are there to provide educational services for pupil with low vision?
10. What are the major challenges to provide educational services for pupil with low vision?

## Appendix III

### Focus Group Discussion for Teachers

The purpose of this focus group discussion is to collect data about the Assessment, educational challenges and opportunities of pupil with low vision at Sebeta School for the Blind. For this reason, this focus group discussion is prepared.

Date..... Time..... Place.....

Number of participant..... Female.....Male.....

#### Teacher's Demographic Detail

Sex.....

Teaching experience.....

Level of education.....

I have participated in training related with education of pupil with low vision

- A. Yes
- B. No

Field of study

- A. General education teacher
- B. Special educational teachers
- C. Other

## **Guiding questions**

1. Discuss about dissimilarity between educational provision for pupil with low vision and total blindness? If yes what is that, please explain it?
2. Discuss about modification of the text books and teaching method for pupil with low vision?
3. Discuss about the class room situation, is it conducive or not for teaching pupil with low vision?
4. Discuss about the training for Pupil with low vision in relation to utilize their residual vision and low vision devises and receiving specialized O & M training
5. Discusses about the adaptation and modification of teaching materials and method to meet the educational needs of pupil with low vision
6. Discusses about the regular eye examination and functional vision assessment test in relation to identifying pupil with low vision and their educational provision
7. Discusses about equal treatment, access as the availability and usage of the materials and devices for pupil with low vision at the same time as students with total blindness in the classroom and in the least restrictive medium.
8. Discusses about referral system for pupil with low vision in your school
9. Discuss about the main educational opportunities of pupil with low vision in your school?
10. Discusses about the main educational challenges that faced the pupil with low vision in this school?

## **Appendix IV**

### **Semi- Structured Interview Guide for Officials at Ministry of Education and Oromya Education Bureau**

The purpose of this interview is to gather relevant and data about the Assessment, educational challenges and opportunities of pupil with low vision at Sebeta School for the Blind. The information positioned from you is to provide appropriate services for pupil with low vision. Therefore, you are requested to provide valuable information openly and freely.

Thank you for Your Kind Cooperation!

Interview date.....Time.....Place.....

Background information of the interviewee

Sex.....Educational level..... Total services years.....

Field of study.....

**Question regarding Educational Challenges and Opportunities of Pupil with Low Vision in Sebeta School for the Blind.**

1. Do you have special needs education background or any training or courses in relation to education of pupil with low vision?
2. What are the role and responsibility of ministry of education in providing educational access to pupil? With low vision?
3. What do you think about the functional vision assessment tool?
4. What do you think about the prevalence of pupil with low vision and their educational services?
5. Is there any guidelines and Standards for Educating pupil with low vision in Ethiopia to gain visual access?
6. Do you believe the Ministry of Education give emphases on the education of pupil with low vision? in what way?
7. What facilities and devices are provide to education of pupil with low vision ?
8. What do you think about the referral system of pupil with low vision?
9. Are there any opportunities to provide educational services for pupil with low vision?
10. What are the major problems to provide educational services for pupil with low vision?

## Appendix V

### Observation Guide

Date.....

School.....

Time beginning..... Time ending.....

The observation in this study is to cross -check the absence or presence of accessible learning environment and educational services. To gather data about the actual educational provision for pupil with low vision based on the literature review.

#### Observation check list In and Outside the Class room

##### Inside the Class room

No	ITEMS	Yes	No	Remark
1	Most of the school teachers try to enable pupils with low vision to become more independent learners			
2	Teachers give equal treatment to all pupil with visual impairment			
3	Most of the school teachers give equal chance to participate in and out of the class room			
4	Most of teachers modify teaching methods for pupil with low vision			
5	Pupils with low vision are using print instead of Braille.			
6	The class room has good contrast and lightning condition			
7	The pupil with low vision receive special support in relation to remaining vision			
8	The teachers reduce visual distractions around an object while there are in the class room.			
9	The class room is conducive for pupil with low vision			

10	The teachers use large print materials, CCTV and other devices			
11	The teachers eliminate glare as much as possible.			
12	The teachers talk directly to the pupil with low vision, using direct eye contact			
13	The teachers respect and understand the individual differences			
14	There are different adapted instructional materials such as colorful maps, pictures and models in class room			
15	The teacher encourage pupil use their residual vision for educational activities			

### Outside the Classroom

No	Items	Yes	No	Remark
1	Most of the special needs educator provide adapted orientation and mobility training to pupil with low vision			
2	Most of teachers work together with parents and communicate about the Education of pupil with low vision			
3	Most of the physical accessibility of the school is appropriate to pupil with low vision			
4	Most of the PE teachers provide extensive support by using adapted physical Education to pupil with low vision			
5	The resource unit is provide support to help pupil with low vision			
6	The school administrator working together with stakeholders in relation to education of children with low vision			
7	Most of the school environment is suitable for pupil with low vision			
8	The school provides early intervention to pupil with low vision			
9	The teachers have commitment to help pupil with low vision			
10	Physical Education teacher encourage the pupils to work and play together			

11	Physical Education teacher use APE for pupil with low vision			
12	Parents of pupil with low vision actively participate on their Education			
13	The school has resource room with adequate low vision materials			
14	The library materials is accessible for pupil with low vision			
15	There are guidance and counseling office to give services for pupil with low vision			

## Appendix VI

### Adapted Low Vision Prasad-Functional Vision Questionnaire (LVP-FVQ)

**Instruction:-If your answer is “Yes”, how much difficulty do you have? Put a thick (√) mark on either Little, A moderate amount, A great deal or Unable to do the activity. If your answer is “No” put a thick (√) mark on it.**

No	The Student' Functional Vision Assessment Scale	Yes				No
		Little	Moderate amount	Great Deal	Unable to do the Activity	
1	Do you have any difficulty in identifying the gender of the person when you are seeing across the road?					
2	Do you have any difficulty in recognizing a person at distance when calling you by waving their hand?					
3	Do you have any difficulty in walking alone in the school corridor without any aid?					
4	Do you have any difficulty in moving without assistant at night to your friend's dorm by using corridor's light?					
5	Can you easily copy words from the Black board while you are in the low vision unite & first row?					
6	Can you read any Anbessa's bus number you see in the street?					
7	Can you read the source and destination place of Anbessa's buses from placard at the Bus stop?					
8	Do you have an ability in reading written materials which has large font?					
9	Can you make straight line on the white paper?					
10	Do you have any difficulty in finding the lines while you are in low vision center & reading from the Blackboard where you stopped after pausing some time?					
11	Do you have difficulty in finding dropped objects (like pen, pencil and eraser etc) in your class room?					
12	Do you have any difficulty of threading					

	needle?					
13	Do you have any difficulty in identifying a 50 birr note from a 100 birr note without touching?					
14	Do you have any difficulty in using Stair to go down & up without assistance?					
15	Do you have difficulty of buttoning your shirt?					
16	Can you bounce back a ball thrown to you during physical education time?					
17	Do you have difficulty in pouring water in the cup?					
18	Can you pick up and eat bread from a plate?					
19	Do you have any difficulty in distinguishing the colors of the ball?					

## Appendix VII

### Audio Recording Consent Form

I, undersigned, voluntarily agree to be recorded on cassette tape while being interviewed. I understand that my identity and privacy will not be revealed by the researcher; that the information I provide will be kept confidential, and that it will be used only for the purpose of the study titled "Education of Pupil with Low Vision: Assessment, Challenges and Opportunities; A case of Sebeta Special School for the Blind". In addition, I understand that the audio recording will be destroyed as soon as the resulting transcription has been verified by me.

Participant's Name: \_\_\_\_\_

Participant's Signature: \_\_\_\_\_ Date \_\_\_\_\_

Researcher's Name: \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_ Date \_\_\_\_\_

## Appendix VIII

### Reliability

Scale: ALL VARIABLES

#### Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded <sup>a</sup>	0	.0
	Total	20	100.0

#### Reliability Statistics

Cronbach's Alpha	N of Items
.755	19

## Declaration

I hereby declare that the “Education of pupil with low vision: Assessment, challenges and opportunities: A case of Sebeta Special School for the Blind” is my own work and that all sources that I have used are duly acknowledged.

Abiyot Mekuria

.....

.....

Signature

Date

This thesis has been submitted on May 2014 for examination with my approval as Advisor.

.....

.....

.....

Advisor

Signature

Date

