



Addis Ababa University

College of Education and Behavioral Studies

Department of Special Needs Education

**COMMUNICATION, ORIENTATION AND MOBILITY
SKILL EXPERIENCE OF THE ENADB MEMBERS**

BY:

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Addis Ababa: Ethiopia

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This thesis is submitted to the Department of Special Needs Education in partial fulfillment of the requirements of MA Degree in Special Needs Education

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ABSTRACT

This Study has tried to find out the communication, orientation and mobility skills experiences of the Deaf-Blind persons in the Metropolitan city of Addis Ababa considering the case with ENADB in particular.

In order to conduct the study, qualitative research approach has been employed with Qualitative phenomenological study method and with theme descriptive analysis method to make the finding more understandable, in-depth interview, reading of relevant documents/reference materials and focus group discussion as well as participant observation has been used to collect the data. The study has also used observation and pictorial representations that support what the Deaf-Blind persons said during the study.

The process of data Collection made use of four care givers; six Deaf-Blind persons as informants for the study.

The findings indicate that all Deaf-blind persons travel to communicate with other people for their daily routine needs without appropriate trainings for communication, orientation and mobility skill. The pavements that lead to different corners of the city are not easily accessible for their mobility. In addition, the people they meet on roads are usually, not cooperative to give helpful information that they are looking for. Therefore, it can be said; the support for the ENADB community isn't based on the knowledge of Communication, Orientation and mobility skill. The study proposes; the Metropolitan infrastructures and buildings leading ways need improvements to fit the needs of Deaf-Blind persons. Finally, on the bases of the study, findings and recommendations are drawn to concerned bodies.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

It has been estimated that there are more than one million adults with combined vision and hearing losses in the United States, and a recent study by the community research institute at Molloy College puts the number as high as 2.4 million. Their capabilities and preferences are as adverse as their backgrounds. As a result, the Deaf-Blind persons need special training to communicate and travel independently. This traveling training is called orientation and mobility. Communication is also the vital part for such persons. Orientation and mobility training has two fundamental elements called orientation and mobility (Schinazi, 2008).

Orientation covers knowing where you are, where you want to go, and how to get there whereas; mobility is the actual physical process of getting from one place to another. Orientation is an awareness of space and an understanding of the situation of the body within it & mobility is the ability to move oneself without coming to any harm (Mason & McCall, 1997).

Anthony (1993) defined orientation as:

“... Knowing one as separate being, where one is in space, where one wants to move in space, and how to get that place. Orientation skill development involves the child’s ability to use available sensory information, have a basic understanding of his or her location in space, and an awareness of the environmental settings in which he or she will move...” (p.116)

The second fundamental element of O&M is mobility. The term mobility refers to a person's ability to move from a particular position in his environment to another. With regard to O&M, mobility entails the execution of purposeful movements that are planned using the orientation process. For successful orientation and mobility to occur, efficient and purposeful movements are vital (Hill & Ponder, 1976).

Orientation and mobility is the ability to move safely, efficiently, and gracefully while all environmental conditions and situations are with as much independence as possible. orientation and mobility training encourages students with visual impairments to develop essential skills, build confidence in their ability to travel within their schools and all other environments by taking responsibility for their decisions (British MoE, 1999).

Components of orientation and mobility are concept development, sensory development, Motor development, orientation skills and mobility skills (Adane, 1991).

The concept development by itself is categorized into three. These are body concept, spatial concept and environmental concepts. Each has their own sub titles and theories (Hill and Blash, 1980).

The development of orientation and mobility skills go hand-in-hand with the ability to gather and interpret sensory cues. Information from sound, smell, and touch support purposeful movement and exploration of objects and the environment. Through the process of sensory integration, it is possible to establish and maintain one's position, locate objects, establish and confirm landmarks, and recognize safety cues. (Schinazi, 2008)

Motor development has been an important curricular area of children's education in schools. By some educators and theoreticians, it is viewed as a base for perceptual development and intelligence (Adane, 1991).

Mobility skills also have the skill of sighted guide, protective techniques and cane travel skill (Schinazi, 2008).

The Deaf-Blind people live and work in communities across the country, in Ethiopia. Most are not totally blind and profoundly deaf rather, they have some degree of combined vision and hearing loss. The deaf-blind community includes individuals who are congenitally blind with hearing loss, congenitally deaf with vision loss, and congenitally deaf-blind as well as those who were born with pure sight and hearing capacity, who later, unfortunately become deaf-blind due to aging, illness or trauma.

In relation to orientation & mobility, there are different ideas suggested by Ethiopian researchers. These ideas has been seen how Deaf-blind individuals participate equally in the past in church education.

There had been positive awareness and no category of deaf-blindness as the disability in the past. Most of the Deaf-Blind individuals in Ethiopia were accepted and educated in churches according to their needs, with the available options. There had been orientation of different Monarchies in churches in which, in order to show their potential in church education, they found and move them to various districts in front of eye witnesses. The experiences of priests on orientation and mobility skills have been not yet researched (Ababu, 2009).

Regarding the modern trend, there are few studies conducted on orientation and mobility instructions on the boarding schools like Sebeta, Shashemene and Wellayta Soddo. Thus, these studies were conducted within boarding schools to define how orientation and mobility instructions proceed for only blind persons (Adane, 1991). But the experience of blind persons with impairment of hearings (the Deaf-Blind disability category at association level) pertaining communication, mobility and orientation skills at association and institution level have been not yet researched. Now days, Deaf-Blind persons are found at ordinary corners of the Metropolitan city: Addis Ababa. Their communication, orientation and mobility skills weren't yet examined and hence, this study takes these aspects into account.

Moreover, as to the investigation of the researcher, little or no research is conducted on the experience of communication, orientation and mobility of Deaf-Blind persons at this time. A researcher named Adane (1991) geared towards the instruction of orientation and mobility, which was a better approach. Cognizant of this situation, studying the communication, orientation and mobility experiences of Deaf-Blind persons becomes essential for showing the current situation of these persons.

Tirussew (2005, p. 170-71) stated some of mobility problems encountered by female blind students in some boarding schools due to gender discrimination as “regulation in light of the traditional stereotyped belief that ‘women should always stay at home’” which has psychological consequences on confidence in moving from place to place.

However, boys with visual impairments, unlike the female ones with similar impairment, had advantages to move from place to place due to traditional regulation (ibid).

Thus, it can be concluded that the communication, mobility and orientation skills of Deaf-Blind persons surrounding the different corners of the metropolitan city of Addis Ababa had not notified.

Well, the children with visual impairments in the traditional priest-taught preschools have been equal beneficiaries at all levels. On the other hand, nothing is discussed regarding the communication, mobility and orientation skills of the Deaf-Blind of that time (Savolainen et al, 2006).

In order to assist the Deaf-Blind communication, orientation and mobility; aid intervention is regarded as basic. The two-ways channel communication needs conversation. Orientation is a mental map of our environment but mobility is the ability to get around in our environment. Guide dogs, Canes, and sighted guide help to make-up for orientation and mobility problems met by children with visual impairment (Yesseledyke and Algozine 1995, cited in Tirussew 2000). Here, the orientation and

mobility problems are clearly shown in the book. But the implementation at the grass-roots level is usually not perceived, these days.

To support communication, orientation and mobility training in Ethiopia; the new educational policy of 1994 has considered the provision of education to children with special needs. The educational policy confirmed; “special education and training will be provided for people with special needs” (TGE, 1994).

Moreover, convention on the rights of persons with disabilities has been ratified “...the House of Peoples’ Representatives of the Federal Democratic Republic of Ethiopia has ratified the said convention at its session held on the 1st day of June, 2010...” furthermore, Article 24 is about education. Here, number 3a elaborated the right to learning of the skill of communication, orientation and mobility and their other rights, appropriately (proclamation No 676/2010, p.35).

To be more specific, the basic reasons that trigger this research topic are:

1. Even though there are some observed changes regarding the development of communication, orientation & mobility training on national policy documents and the course has been given at tertiary levels; there are still evidences that indicate problems in implementation.
2. As far as my investigation is concerned, no major study has been seen conducted on the communication, orientation and mobility experiences of the Deaf-Blind persons at Metropolitan city level.
3. Having worked on sign language, Braille and mobility orientation special needs education skill based area; the researcher personally had a chance to have some observations on actual practice of Deaf-Blind persons on their daily activities in different sectors. The lack of practical skills on communication, mobility as well as orientation, lack of community support and lack of physical accessibility of the metropolitan city for their communication and mobility have been some noticeable problems that apparently affect their interaction with other persons and movement.

With this background, the researcher has set out this research project to explore the current communication, orientation & mobility skill experiences of the ENADB members; as it has been perceived from the participants and the backdrop of the National Guidelines and internationally shared knowledge and practices.

1.2 Statement of the Problem

Every day, Deaf-Blind individuals are not believed to interact with an urban environment that is not responsive to their needs. The existing urban infrastructure can be disorienting, difficult to interpret and navigate for them (Imrie & Hall, 2001). On the other hand, provision of education as well as training skills of communication, orientation and mobility aren't in their reach. On campus service training for Deaf blind persons is part of a true learning compound center. The program will be tailored to individual needs, and everything individuals learn will have practical, real world applications. The individuals with Deaf blind closely attach to a team of experts to identify their strength and weakness, set goals for themselves and make a plan to achieve what they learned. This residential program will enable individuals with Deaf blind to immerse themselves in the training. Living on campus for individuals with Deaf blind will develop in valuable skills and strategies that will help them in every area of daily life from managing home and communicating with loved ones, to traveling safely and succeeding on the job. This service is also not on their reach. Off campus services national network of regional offices provide information, support and advocacy for disability issues for individuals with disabilities, their families and the professionals who serve them. Each regional representative knows all about the programs and the services that are available in each state and beyond, and can help their members to find and access the one that are right for them. This off campus services on the ground for individuals with Deaf blind on the community level, the community service program staffers are not fully engaged in regularly out in the field, also not making difference in home, work, educational and community settings in the metropolitan city Addis Ababa.

Therefore, this study will attempt to address the following research questions:

1. How the ENADB membersexperience communication and mobility in their surrounding environment in the metropolitan city of Addis Ababa?
2. How the ENADB membersorient to get their target places of different corners for their daily needs in the metropolitan city of Addis Ababa?
3. How the ENADB membersdefine the obstacles they face on daily basis in the different environment of the metropolitan city of Addis Ababa?
4. How the ENADB members experience the metropolitan city administration's staff community support for their communication, orientation and mobility?

1.3 Purpose of the study

1.3.1 General objective of the Study

The main objective of this research is to develop an understanding on how communication, orientation& mobility skills experience is going on from the participants' perspective as well as in the light of nationally laid goals, internationally shared knowledge and practices.

1.3.2 Specific objectives of the study

1. Understand the communication and mobility experience of the members of the ENADB in their surrounding environment of the metropolitan city of Addis Ababa.
2. Identify the orientation experience of the members of theENADB to their surrounding environment of the metropolitan city of Addis Ababa.
3. Understand the obstacles that the members of theENADB face on daily basis in the different environment of the metropolitan city of Addis Ababa?
4. Understand the support provision of the community for their communication, orientation and mobility.

1.4 Significance of the Study

The study has the following significances:

1. It will increase awareness among the members of the ENADB, staff members of the ENADB, the society of the metropolitan city Addis Ababa and policy makers about the actual status of experiences regarding communication, orientation and mobility skills of Deaf-Blind persons at the city administration level.
2. It will enable stakeholders to act in bringing about positive changes in the present system of communication, orientation & mobility skills training of Deaf-Blind persons.
3. Finally, the findings of this study will be used as a resource for researchers, special needs educators and others who have interest to do further research in the area.

1.5 Definition of Key Terms

Deaf-Blind— refers to individuals who have a total lack of both vision and hearing and those with varying degree of light perception as well as hearing impairment (WHO, 1992).

Communication—is a diversified process of interaction for deaf-blind individuals with visual and hearing impairments in which, the visually impaired ones use spoken language as the means of communication and those with hearing losses do use signed language. Moreover; Braille, Tadoma and the like can be used along these communication system.

Orientation— is an awareness of space and an understanding of the situation of the body within it.

Mobility - is the ability to move oneself from one place to another place independently and effectively.

CHAPTER TWO

LITERATURE REVIEW

According to Jacobson (1993), hearing and vision play an important role in the way the individuals perceive and understand the environment. Through the use of hearing and vision, individuals process in their memories by gesturing, signing, and talking about things they have experienced together and images of the world around them to monitor how they must move through space efficiently, effortlessly, and gracefully. On the other hand, if the hearing and vision system of individuals become impaired, they must learn new ways to use their sensory impressions to modify, and adapt their communication and movements to compensate for this new way of perceiving the people and objects in their environments.

1.2 Communication, orientation and mobility abilities, skills and techniques of Deaf-Blind persons

1.2.1 Communication and orientation of Deaf-Blind persons

The main communicating system used by deaf-Blind person includes: clear speech (for those with some remaining vision and hearing), Deaf-Blind manual alphabet, block alphabet, hands on signing, visual frame signing, Braille and moon.

A) Deaf-Blind manual is an adapted form of finger spelling from British Sign Language (BSL). Each letter is spelt out on the hand, enabling communication by touch alone. It is straight forward to learn, and allows you and the person you are communicating with to spell out words and sentences'

B) Block alphabet is another manual form of communication where words are spelt out on the palm of your hand. It is even simpler to learn the Deaf-Blind manual alphabet, but can be a slower method to use because the user should:

- Trace each letter with his/her finger, in block capitals, on the palm. Use the whole of the palm for each letter.
- Keep letters large and clear.
- Place one letter on top of the last.
- Pause slightly at the end of each word.

C) Braille,

D) Moon.

There is a history of programming and research with children who have a combination of hearing and visual impairment, now referred to as Deaf-Blindness (Van Dijk et al, in press). Although total loss of either sense is rare, Van Dijk et al notes that this condition is characterized by enough loss in each area to preclude using it to compensate for the loss in the other. Deaf-Blindness can occur congenitally or at an early stage and, if so, has much more severe effects than if acquired later. The well-known stories of Helen Keller (who became deaf blind at 19 months) and Laura Bridgeman (deaf-Blind at 24 months) demonstrate, however, the difficulty of communication development even when a child initially has sight and hearing. Deaf-Blind persons are both very varied in their communication requirements due to differences in the extent, type and history of their sensory impairments; personal characteristics and the skill they have (been encouraged to) developed and the general population on a wide range of characteristics, including interests.

The interpersonal communication language and approaches used by Deaf-Blind persons include the following: A) Spoken language, B) Sign language, C) Tactile sign language, D) Deaf-Blind manual alphabet, E) Tadoma: The Deaf-Blind persons chin, lips, or throat to feel their movements as they speak, F) The deaf-Blind block alphabet (Spartan), G) Finger Braille: typing onto six fingers as a Braille keyboard.

These things presume orientation. The definition of the concept of orientation depends on the scientific approach using the term in different disciplines according the authors description. For instance, orientation in psychology and psychiatry can be described as “the ability to locate oneself in one’s environment with reference to time, place and peoples” (Collins, 2009).

In additionto the above, in the field of psychology, one definition of orientation is "the process of familiarizing oneself with a new surfing, so that movement and use do not depend on memory cues, such as maps, and eventually become habitual" (Vandenbos, 2007, p. 656). A related term used in the field of psychology is *way-finding*, which is defined as the planning and strategic components that guide action, deliberate movement, and the ability to reach a goal (Darken & Peterson, 2002). *Navigation*, another term commonly used in psychology, geography, and other fields, is defined as "the mechanisms used by an organism to find its way through the environment" (VandenBos, 2007, p. 612).

On the other hand, in Mathematics, orientation is a geometric concept that is in two dimensions which allows one to say when a cycle goes around clockwise or anti-clockwise and in three dimensions when a figure is left-handed or right handed. In Geometry, in relation to specific example , orientation is an angular position, or attitude of an object such as a different “line, plane or rigid Body” which is part of the description of how it is placed in the space it is in (Weisstein,2003).

According to Glase et al. (1992), orientation in Biology as behavior of animals is one of the most interesting phenomena in all of biology. Orientation refers to the spatial organization of movements. Since movements are elements of behavior, orientation and behavior are intimately associated. Behavior is any overt manifestation of life by an animal, especially one that takes the form of movements. Behavior is defined as a sequence of movements characterized by a specific configuration in time and space. Orientation is the process that animals use to organize their behavior with respect to spatial features.

Orientation in space is fundamental for all humans and most other animals. Accomplishing goals often requires moving through environmental spaces such as forests, houses, or cities. Several mechanisms were evolved in order to solve these orientation problems, including spatial updating, route navigation, and reorientation by landmarks and geometry (WHO, 2001).

In special education, the orientation refers to the information got through the sensory processes, or maximizing all of individual's senses to help individuals to know where they are where they want to go using their senses and consists of a combination of Self-protective techniques and human guide techniques to move safely through indoors and outdoors environments. The orientation process can be assisted by using different kind of means: a cane and other devices to walk safely and efficiently. It also covers techniques like for crossing streets, analyzing and identifying intersection and traffic patterns with that to develop problem solving skills (Mason and McCall, 1997).

Orientation is the ability to use one's remaining senses to understand one's location in the environment at any given time: children who are born deaf-Blind with hearing or seeing impairments do not have ways to observe and imitate those who move around them. Often, they develop indifferent but slower ways than do children who have an intact visual system (Jacobson W.H., 1993).

Orientation is the individual psychological thinking (the mind map or understanding) and mapping skills (the way reading of map by finger tips), which are an essential part of a student's orientation and mobility understanding. Map reading promotes the integration of concepts with skills, enhances comprehension of spatial relationships, and enables the student to travel independently in all environments (MoE British, 1999; Mason and McCall, 1997).

Moreover, discussion has been done by Long and Hill (1997) that orientation is not only dependent upon the gathering of information through all available sensory channels (e.g., remaining vision, hearing, touch, kinesthetic, or olfactory) but also on an understanding

of the regularities and exceptions to the regularities of built environments (i.e., environmental concepts). This information is used to develop a conceptual understanding of the environment of travel, plan routes of travel and re-establish orientation if lost. However, none of the information available to these travelers is as comprehensive or definitive as that normally available through vision. Thus, the traveler is taught to: assign meaning to sensory input not normally attended to by others, selectively attend to various sensory inputs, critically analyze the incoming information in relation to the structure of the environment of travel, and then decide which input(s) is most informative at the moment and act upon it.

Orientation to more complex environments is informed by the use of both landmarks and information points (Guth and Rieser 1997, Jansson 2000, Long and Hill 1997). Landmark is the term used to describe perceptible, permanent features of environments that when recognized permit travelers to know their precise location in a known environment. While information points (also known as cues, clues and dominant clues) are two or more features that, although not sufficient in themselves to serve as landmarks, when linked spatially, serve the same purpose (Long and Hill 1997).

Orientation to place may be assisted by the use of tactile and high contrast maps and models, talking signs and more recently global positioning systems (GPS) especially adapted for use by Deaf-Blind with hard of hearing pedestrians (Ponchillia et al. 2007).

1.2.2 Mobility of Deaf-Blind persons

Early intervention has long-lasting impact on human developmental, emotional, social, behavioral and school performance (Feldman, 2004). More specifically, the focus in here is on intervention given to individuals with disabilities that might be sign language for deaf individuals, Braille for blind persons, adapted physical exercises for persons with disabilities and orientation and mobility skill training for blind children's and tactile communication , mobility orientation skills for Deaf-Blind individuals and so on.

Mobility is the capacity or facility of movement from one place to another place by the help of our body parts: legs and foots etc. (Jacobson, 1993).

Moreover, for the mobility skill of Deaf-Blind individual with hard of hearing, the environment must be accessible through some sort of accommodation within it. For example, the environment must be flat, even and level. This means, roads should be plain, flat, straight, horizontal, properly bordered with barricade, free from electric poles and other standing materials and son on (Alenew, 2011).

The rational for having mobility skills experience emanates from the fact that Deaf -Blind children cannot travel by themselves as independently as their sighted peers. Mobility experience and training, therefore could offer them the opportunities to travel in familiar and possibly in unfamiliar environment and explore it. The more they travel the more they are able to gain new experiences or strengthen what they have already. In the case of this study, they can go to their surrounding environment of the metropolitan city Addis Ababa without much difficulty, visit their friends and become more involved in family, community and Social activities. Safe and independent movement improves self-concepts, fosters self-confidence and rewards one with better social acceptance (Schinazi, 2008). So, mobility skills area will include major components like Trailing techniques, cane skill techniques and sighted guide techniques (Jacobson, 1993).

2.1.3 Orientation and mobility techniques for Deaf-Blind persons

2.1.3.1 Trailing Techniques

Trailing is a technique of using the back of the hand to keep a straight line of travel that is to walk straight along a wall, the edge of a table or other objects, usually in familiar places. In trailing, the hand (arm) remains in contact with the surface one is following and according to Hill (1986) the hand may need to make downward and forward movement at an angle of about 45 degrees. Trailing helps in providing tactual information. Trailing is an important skill that helps Deaf-Blind with hard of hearing children to stay oriented. Jacobson (1993) referred trailing as a good example to show the

connection between orientation and efficient mobility. It also is considered as a protective technique. It is easy to use and it is often used school-age children in moving from one class to another.

2.1.3.2 Protection methods

This is the second type of mobility Skills category. Protection method involves the upper-hand, fore-arm, lower-hand and fore-arm techniques. In the upper-hand and fore-arm technique, the hand and the fore-arm are held up across upper portion of the body to protect oneself from obstacles about shoulders and head high. On the other hand, the lower body protective technique requires the hand and the fore-arm to be extended diagonally across the lower portions of the body. So, both upper and lower hand protective techniques help Deaf-Blind with hard of hearing children in avoiding bumping their heads, in finding objects in front of the body when approaching it, and allowing them to move about safely and independently indoors. However, they are not very much helpful for long-distance travel and in unfamiliar outdoors environments (Wiener et al., 2010).

2.1.3.3 Cane skill technique.

Cane skill technique is one of the most needed skills for Deaf-Blind with hard of hearing children. Cane skill can be used in conjunction with nearly all other mobility techniques. It provides safety and travel information about the environment. Whether for children or adults, the most frequently reported techniques of cane skill are the diagonal and touch techniques. In the former case, the cane is held diagonally across the body constantly in touch with the surface of walking. Its purpose is to act as obstacle detector. In the latter case, the Deaf-Blind traveler with hard of hearing is required to extend the cane forward and swing it from side to side, slightly touching the walking surface at each end. The idea of it is to clear the path from being occupied (Hill, 1986; Wiener et al., 2010).

Tooze (1981) sequenced the cane skill learning for blind children into six steps. These were: Practice holding the cane appropriately and maintaining hand position while grasping the cane. Keep the cane in the central position while walking across rooms. Swinging the cane from side to side, negotiate climbing and stepping down of stairs with cane. This can happen by using a guide line such as Krebs, wall to locate objects and cane-indoor hold (using the cane to protect the body in situations which do not allow one to swing the cane).

Wiener et al. (2010) have discussed the experience that has been seen in Deaf-Blind with hard of hearing and seeing individuals are: holding single of the cane (grip), the hand position, wrist movement, the swinging Style and the rhythmic movement.

2.1.3.4 Sighted guide technique

According to wiener et al. (2010), the sighted guide technique is one of the oldest and the most readily available means of mobility which could be of use to Blind individuals. In this technique, the Deaf-Blind individuals are guided by sighted persons. Special procedures are requiring to unfamiliar places, stores, narrow passages, up or down Stairs and the like. In general, sighted guide technique involves Deaf-Blind the experience of: establish contact with the guide grip position of the arm move with the guide speed, turn change sides move through doors narrow places, ascend and descend stairs, to take a seat in different way, take a seat during meals get in to vehicles.

It is important to note that intervention of orientation and mobility should be the primary means for the full personality development to blind persons. According to Long (1990), orientation and mobility is among the most important of human abilities. However, limitations in these abilities can impair social, vocational and personal adjustment to blind persons.

2.1.4 Motor Development

Motor development has been an important skill area of children's education in schools. By some educators and theoreticians, it is viewed as a basis for perceptual development and intelligence, while others relate it to academic achievement and to improvement in motor tasks (gross and fine motor). However, the argument in support of the inclusion of motor tasks in O&M experience of young Deaf-Blindchildren seem to be encouraged by the results of comparative developmental studies of sighted and non-sighted Children. The results of the studies seem to have a certain consistency of the fact that Deaf-Blindchildren show some deficits in certain selected activities that require motor abilities (reaching to objects, crawling, walking) (Smith and Hill, 1990).

The differences between sighted and non-sighted children in motor development are more pronounced during the latter months of infant life rather than the first few months of life (pogrund and Fazzi, 2002). At the end of the first year, sighted infants advance well to independent walking whereas Deaf-Blindinfants reach this level after four to Six months of delay. The slowness ofDeaf- blind infants in locomotion activities (to reach to objects, creepingand waiting) was explained from the lack of visual stimulation experience for movement (pogrund and Fazzi, 2002). In relation to this, kastein et al. (1980) on the basis of their personal experiences believed that the reason for Deaf-Blindinfants failing to reach to sound cues is their inability to make connections between the Sound and the object that produces the Sound.

The other reasons forwarded for Deaf-Blindchildren's who lag in motor development include the lack of awareness about the environment, body image and spatial concepts, lack of opportunities to practice movement due to over protective attitudes of parents, lack of self confidence in unfamiliar environment, lack of body balance coordination, inability to watch and model (Pereira, 1990).

It also seems, Deaf-Blind children need more stimulation to develop fine motor skills. Fine motor skills such as tactual experiences involving the bringing together of thumb

and forefinger, the picking up of small objects from floors or tables may require adult intervention (Kastein, 1980). According to Griffin-Shirley (2007), “Sighted infants progress from mutual fingering at midline to reaching objects by five to six months while Deaf-Blind infants accomplish these tasks at around ten months”(p.10) that is after establishing sound-object connections. Swallow (1978) sees this shortcoming of Deaf-Blind infants as rising from the absence of a model to observe and appropriate manipulative activities. The suggested activities for this purpose include:

1. Encouraging Deaf-Blind children to bring their hands to midline,
2. Giving rich experiences of touching various objects and explaining the meaning related to each object (Griffin- Shirley, 2007).

Hill (1986) also considered the fact that fine motor skills are used as facilitators of Cane Skill acquisition and exploration as well as manipulation of objects.

2.1.4.1 Components of motor development

The important components of motor development (both gross and fine) experience, therefore, appear to be 1) posture 2) balance 3) locomotion and 4) coordination.

Posture

Posture as described by Hart (1980) is the “result of the interacting motions of the head, torso and limbs to maintain balance, orientation to gravity, and adjustment to acceleration” (p. 13). Although posture appears to be more dependent on kinesthetic sense, it is mainly a product of the interaction of the kinesthetic sense with other sense modalities of visual, vestibular, and tactual (Tooze, 1981; Hart, 1980; Hanninen, 1975). In order to establish appropriate posture, it is essential to secure the proper segmental alignment of the body parts (DiFrancesco, 1980). According to DiFrancesco, posture is more dependent on “external forces acting upon the body, and balance distribution of the body’s weight, than on internal forces elicited by excessive muscle contractions” (p. 54-55). DiFrancesco and Warren (1984) recognize the importance of appropriate posture to

mobility from its contribution in maintaining (static) equilibrium between the body and the environment.

Postural deviations could be remedied through physical therapy and direct exercise. Hanninen (1975) listed three conditions for establishing appropriate posture: adequate awareness of spatial orientation, well-conditioned postural reflex mechanisms and appropriate body awareness against which motions can be patterned.

Balance

Balance refers to the ability of the body to maintain equilibrium in the presence of disturbing conditions Such as the force of gravity (Hart, 1980; Cratty, 1979). According to Cratty (1979), balance is basic to performance tasks and if it is deficit, it will have a negative impact on locomotion activities like hopping, skipping, etc. Although vestibular perceptions are to a certain extent involved with body balance coordination, balance is “primarily influenced by the subtle interactions of the visual and muscular systems working together” (Cratty, 1979 P. 201). Cratty (1979) also found balance measures as good predictors of performance in tasks that involve large muscles. Cratty holds true then it is possible to think that blind children could show some deficits in task that require balance, such as movement. Balance interacts with movement definitive training of Deaf-Blind children with hard of hearing in balance tasks will contribute to their efficiency in traveling or to their quality of movement.

Locomotion

As discussed by Cratty (1979), locomotors activities help children to understand the movement they can make and its relationship with the environment. Sighted children are at much greater advantage in locomotion activities and in understanding their interaction with the environment than Deaf-Blind children because vision gives them information about the nature of the surface to be walked, provides a preview of the environment,

gives information about the space to be occupied, enables them to perceive stability and permanence.

According to Tooze (1981), the basic movement (walking, jumping, sitting, and standing) activities should be extensively practiced to improve Deaf-Blind children's withlocomotion inefficiency. Recognizing it as a unique developmental need of Blind children Ferrell (1986), however, argues that the skill must not be taught as an isolated experience. She favors an integrated approach in experiencing locomotion Skills.

Coordination

Coordination involves activities in which the smaller muscles are employed. These activities are: holding, grasping, inspection, and manipulation of things, shapes and forms. As discussed earlier, due to primary effect of visual loss, these types of activities somehow require a high degree of stimulation in Deaf-Blind children. Zaichkowsky et al. (1982) after having examined the factors and structure of motor abilities of Deaf-Blind children suggested that having experience in motor skills must be geared to the development of specific competencies such as balance, body coordination, agility, strength, flexibility, and fine motor coordination. Jan et al. (1977) suggested that Deaf-Blind Children who have not been given adequate opportunities to learn motor skills are often delayed in their development. They are frequently hypotonic, poorly coordinated, walk on an insecure base and their feet are extremely rotated.

Best (1992) suggested that Deaf-Blind children cannot easily monitor their movement and may have difficulty understanding what happens when they move or stretch a limb, bend at the waist or roll over.

In order to develop as confident and independent travelers, Deaf-Blind children will need skilled intervention from a very early age to promote motor development and coordinated and purposeful movement, and as they develop, a carefully structured program to teach them the techniques of travel (Mason and McCall, 1997).

Deaf-Blindness does not directly lead to uncoordinated movement, but it may retard the child's movement in two ways. First, the absence of clear vision will greatly decrease the motivation to move. Secondly, without clear vision a child may be fearful to move, because she/he feels unsafe and uncertain in their surrounding and need the security of staying still (Mason and McCall, 1997).

Crawling, a stage often missed by blind individuals, can be encourage through the use of attractive sounds, smells. The advice of a physiotherapist who can demonstrate ways of encouraging movement can be very helpful (Mason and McCall, 1997).

Balancing, jumping, swinging and climbing, using push and pull toys are also helpful, but in all these, the safety factors must be considered and parents, careers and primary school staff will need advice on how to make the children safe (Mason and McCall, 1997).

2.1.5 Sensory development

Sensory skills

According to Fitzgerald and Parkes (1998), sensory and cognitive functions enable human beings to orient themselves in the world; they also make aware of dangers and rewards or show pleasure and pain. Therefore, they are the means by which to receive messages from surroundings.

Many professionals working in the field put an extensive effort into developing all the available senses to deaf-Blind individuals' the fullest extent in hoping to compensate for the deficiency that result from vision loss. Some studies like the one below established the role of sensory awareness in efficient for deaf-Blind individuals regarding O&M (British MoE, 1999) as follows:

The development of orientation and mobility skills goes hand-in-hand with the ability to gather and interpret sensory cues. Information from sight, sound, smell, and touch support purposeful movement and exploration of objects and the

environment. Through the process of sensory integration, it is possible to establish and maintain one's position, locate objects, establish and confirm landmarks, and recognize safety cues. By using the senses, students can access additional information (Braille, print, voice, and tactile diagrams) that assist them in becoming familiar with a travel setting. Practice and familiarity with a setting often enhances sensory awareness and responsiveness. The ability to use one's senses may be compromised by illness, fatigue, and stress (British MoE, 1999 pp.24)

In relation to the above, it is believed that having experience in visions enable to gather information for travelling (Passini, 1986). Language and sounds can convey information about the identity as well as the distance and direction of places, objects and people. Ashmead et al. (1998) argues that auditory cues can help in the formation of mental images for Deaf-Blind individuals who have light perception with low vision. Lewis & Lewis (2003), also reports on several studies on tactual perception of Deaf-Blind individuals with no difference with that of sighted one. Adane (1991) also states the role of olfactory sense to detect odors of drugstores, garages, bakery shops. Sensory skills are very important for concept development.

Audition

Children begin attaching meanings to the sound stimuli as a result of experiences. As discussed by Barrage (1986), the auditory system begins to play a role in activating the senses of Deaf-blind children with Visual Impairment after the first year or two.

Lewis & Lewis (2003), encouraging the idea of developing the hearing ability of Deaf-Blind children, made four distinctions in the development of the use of sound. These require Deaf-Blind children: to be aware of sounds, to identify sounds, to locate sound sources and to discriminate masked sounds.

In relation to this point, Lewis & Lewis (2003) have advised teachers to begin their work in understanding the hearing ability of their pupils. They had also suggested a number of

ways that enhance the development of auditory skills in Deaf-Blind individuals. Similarly, Horton (1986) suggested quite many activities that range from locating sound directions in a room to identifying objects that pass near classrooms based on the sound cues.

Tactile

Tactual modality (Tooze, 1981) is one of the important perceptual modalities through which they perceive and interpret their environment. As Tooze (1981) pointed out the sensory receptors for touch and haptic senses are distributed under the whole skin of the body. This enables the Deaf-Blind children to receive certain information about the environment when one's body (hands, limbs, and heels) come in to contact with certain objects.

According to Griffin and Gerber's (1982) analysis of the tactual modality development of Deaf-Blind children have four stages of development. They could be cited: the first stage includes recognition of texture, temperature, vibrating surfaces, etc. The second Stage embraces the recognition of structure and relationship of parts to whole, shape conceptions and recognitions. The third stage involves exploring forms and related parts of an object. The fourth contains the utilization of symbols like Braille reading or Braille maps reading.

Tooze (1981) broadens the tactual modality concept by differentiating it into tactual and haptic perception. For pick, the passive touch is the tactual perception when an individual reports that she or he is touched i.e. feels something is touching him or her. The active touch is haptic perception. Haptic perceptions help in reading Braille maps, identifying objects and in maintaining directional orientation.

Olfaction

Olfactory sense in the travel ability of Deaf-Blind Individuals helps in maintaining directional orientation. To Deaf-Blind children, locating shops, drugstores, garages, and

bakery shops by the direction of odors help them in maintaining directional orientation while traveling. As Barraga (1986) reports, they give orientation cues for Deaf-Blind children moving around home and school. Theodors give signals of proximity for the Deaf-Blind children and adults, even when they travel independently. Deaf-Blind individuals are able to sense the presence of people, objects, and places by smelling.

The kinesthetic sense

According to Tooze (1982), the kinesthetic sense is concerned with body motion and is controlled by neuromuscular system. A Deaf-Blind individual with good kinesthetic sense can have good posture and gait or rhythm of movement.

Vestibular perception

This is a non-visual sensory system for maintaining orientation with respect to gravity and for perceiving changes of position in the environment, found in the inner ear as to Tooze (1981).

2.1.6 Construction of knowledge and concepts of a Deaf-Blind child (person)

2.1.6.1 Construction of concepts of a Deaf-Blind child

Concepts are mental representations or understandings of people, places, things, physical properties, events, actions, and reactions. Specific concepts develop through a process of classifying or grouping things that are similar and proceed through the following stages (Schinazi, 2008): an awareness that something (for example, a chair) exists, an opportunity and desire to interact with it (for example, touch, explore, read about it, sit on it, or climb on it (Skellenger and Hill, 1997). Other people supplying labels for it (sitting arrangement), multiple experiences with different types within that classification (different types of chairs), and the ability to appropriately classify different examples of the concept (objects of different shapes, sizes, and materials that fit within the Concept of “chair”).

Concept is also a mental representation, image or idea of individuals. Deaf-Blind individuals experience difficulty in attaining concepts with both choice and variety (Santrock, 2000). Deaf-Blind children need to have body concept, spatial concept (positional, relational, shape, measurement, action) and environmental concept. The concept development (Hill and Blash, 1980) is categorized in to three areas as follows:

Body concept of Deaf-Blind individuals

For all human beings, many recognized the fact that knowledge about body parts and their various functions is among one of the fundamental concepts essential for the acquisition of O&M Skills. Bratty (1968) highly emphasized the contribution of body image awareness to an effective O&M of children from the belief that one's own physical body is the "centered platform" from which all spatial judgments originate. Hill and Blash (1980) believed that orientation ability begins with the perception of objects in relation to self. If this rational is true, accordingly, Deaf-Blind children must be taught about their own body parts and functions. The knowledge of body surfaces such as anterior or front, posterior or back, sides (left or right) are also critical. Concepts related to movement of body parts like bending the body, rising to tiptoes, and sitting must be well practiced (Hill and Blash, 1980). If a child is able to know the interrelationship between his or her body parts and how they are positioned through deliberate exercise and play; he/she can transfer this knowledge to the external environment (Hill and Blash, 1980).

Spatial concept of Deaf-Blind individuals

Passini (1986) described spatial orientation as a person's ability to mentally represent the environment and to situate him or herself with that representation. Warren (1984) has asserted, visual experience is critical for spatial information. But Miller (1988) and Jones (1975) argue that vision is not the only modality which provides spatial information. They rather assume it as a result of multimodality sense functions. According to them, spatial information can be coded from hearing, touching, and movement as well.

Byrne and Salter (1983) had discovered that Deaf-Blind individuals are poor in estimating directions from locations other than they are familiar with (home). So that let them have spatial task experience with geographic references, they recommended.

Environmental concept of Deaf-Blind individuals

Environmental concepts could be maximizing the information a Deaf-Blind individual seeks for his or her travel (independent movement). They are quite varied and endless. It is important to stress and teach them to exercise the environmental concepts such as traffic jams and all others with greater accuracy so that children could avoid dangers (Wiener et al., 2010).

In relation to concept development, in the 1980's, the Canadian researcher J.F. Fletcher proposed three theories (Deficiency, Inefficiency and Difference) as a way to categorize the history of research on the spatial abilities (Fletcher, 1980 cited in Schinazi, 2008). The deficiency theory holds that vision is essential to the congenitally Deaf-Blind individuals who are incapable of spatial thought because they have never experienced the perceptual process necessary to comprehend spatial information. The inefficiency theory states that the Deaf-Blind individuals are able to understand and manipulate spatial concepts but that their knowledge is lesser when compared to the sighted and hearing endowed individuals. The difference theory believes that the Deaf-Blind children are functionally equivalent to the sighted in their ability to process spatial information but that these representations are built in a different manner (Schinazi, 2008).

Environmental concepts are related to the concepts of different objects in the environment, concepts of landscape, concepts of texture and concepts of temperature and the like (British MoE, 1999 pp.10). For the Deaf-Blind children having practical experience in the environmental concepts that may enhance learning and appreciation of their own mobility is essential (Schinazi, 2008).

2.2 Education of Deaf-Blind children and adolescents in Ethiopia

2.2.1 Education of Deaf-Blind persons in Ethiopia

Ethiopia has got a long tradition of writing which has been used for purposes related to church, education and government. The early education of the society was mainly dominated by the traditional ways of the Ethiopian Orthodox church. A school run by the church has four levels (Nebabe Bet, Zema Bet, kine Bet and metsihafit Bet) which are parallel to the modern educational levels (Ministry of Education, 1984).

Early attempts of introducing western type of education were resisted by the Ethiopian church. However, it was during the reign of Minilik II that attempts to start modern education were strengthened.

During the earlier times, the lives and work of Ethiopian society was dominated by the Christian faith. Educations of the persons with disability were mainly the responsibility of the Ethiopian Orthodox Church. Like their fellow friends, students from the disability category like the deaf-Blind were not expected to pass through all levels of church education.

Tirusew cited in (Saxolainen, 2006) said, the nature of the traditional educational system, which has been predominantly oral, was instrumental in facilitating the inclusion of children and adults in the system. As a result, it is not uncommon to find successful and highly honored Deaf-Blind persons in the learning in Ethiopia. Yet, it is undeniable that Deaf-Blindness creates many challenges to provide educational services. Still, there are no dedicated schools for persons with Deaf-Blindness other than the ENADB day care center, which was established in 2006.

The current document of ENADB gives the enrolment of Deaf-Blind children in daily care center of the association. The report quickly pointed-out that the number of Deaf-Blind children who were attending daily care is expected to rise. A reflection of these numbers is shown below:

Table 1: - Enrolment of Deaf-blind persons in ENADB

Disability	Male	Female	Total
Deaf-Blind	46	31	77

According to the similar recent document from ENADB, the distribution of Deaf-Blind persons by sub-city in Addis Ababa city administration is as follows:

Table 2: - The status of Deaf-blind persons at the sub-cities of Addis Ababa

N0	Sub-cities	Male	Female	Total
1	Akaki- kaliti	1	-	1
2	Nefas silk-lafto	5	2	7
3	Kolfe keranyo	7	5	12
4	Gullele	5	8	13
5	Lideta	3	4	7
6	Kirkos	3	6	9
7	Arada	8	2	10
8	Addis ketema	6	1	7
9	Yeka	5	1	6
10	Bole	3	2	5
11	Addis Ababa City Admin.	46	31	77

2.2.2 Main challenges of education of Deaf-Blind students in Ethiopia

Some of the main challenges of education of Deaf-Blind students in Ethiopia are: lack of clear and enabling policy, a shortage of human resource in the field, appropriate instructional materials, an un-conducive environment, and lack of back-up support were considered by the Deaf-Blind persons as obstacles encountered in the course of their education, according to the various available sources.

CHAPTER THREE

RESEARCH METHODOLOGY AND DESIGN

In this section, the researcher tried to describe the kind of research methodology and design employed for the study and rationale for choosing it. At the same time, the research site, the data collection tools and data analysis strategies are also described.

3.1 Research methodology

This study intends to investigate the in-depth understanding of Communication, Mobility and Orientation experience of Deaf-Blind persons as it is being run in ENADB that is in Addis Ababa city. The researcher then found qualitative research approach suite to this end.

The researcher believes qualitative research approach uses a wide and deep-angle lens that examines behavior as it occurs naturalistically in all of its detail. It is also based on what is called constructive philosophical position. Constructivism assumes that humans are not passive beings, rather, they are active in learning and knowledge construction by giving meaning of their own in a given context, and hence reality is “socially constructed” (Johnson and Christensen, 2004; Bogdan and Biklen, 1992; Denzin and Lincoln, 1994). So, in order to develop an understanding of the social activity in an educational process, it is quite important to see it from the participants’ perspective and in the context experience they are in.

Qualitative research examines people’s words and actions in the narrative or descriptive ways more closely representing the situation as experienced by the participants’ (Johnson and Christensen, 2004; May kut and Morehouse, 1994). Researchers identified the following major characteristics of qualitative research methods in education, which the researcher will find it workable for this study. Qualitative research:

- Has the natural setting as the direct source of data and the researcher is the key instrument because it is practically impossible to isolate the “researcher from the researched” (Kincheloe, 1991; Johnson and Christensen, 2004) in studying human subjects (participants).
- Is descriptive and includes interview, field notes, Focus group discussion, observation, etc. (Johnson and Christensen, 2004).
- Is concerned with process rather than simply with products (Thomas, 2011).
- Tends to analyze data inductively (Johnson and Christensen, 2004).
- Takes “meaning” as having central importance in research (Thomas, 2011).
- Tends to emphasize the uniqueness of cases and contexts (Thomas, 2011).
- Uses a holistic approach to small number participants (Johnson and Christensen, 2004).

It is with this methodological paradigm that the researcher has chosen to approach this study and has made every effort to follow it throughout the whole research process because the researcher believed; it is a more appropriate of approaching to understand the research problem.

3.2 Research design

Van Kaam (1966), as reported by Moustakas (1994), defined phenomenology as an approach that attempts to explain how a lived experience surfaces as behavioral response through the actions of the subject of the experience. Lived experiences and personal perceptions are not easily defined through quantitative research methodologies. Creswell(2005), Sokolowski (2000) identified the appropriate rationalization for using a qualitative phenomenological paradigm for the current study. Sokolowski explained phenomenology as a process that presents an opportunity for individuals to explore personal experiences and unlock the memory of those experiences through verbalization to examine and evaluate how the experiences fit into a personal lifestyle.

Qualitative phenomenological study research design (Sokolowski, 2000) is used to execute the present research because it is more appropriate in getting in-depth information and insights in to the issues that are related to the communication, orientation and mobility experience of deaf-Blind persons in ENADB at Addis Ababa. The phenomenological research design within a qualitative study paradigm is an appropriate research method to explore the basics of phenomena as that phenomenon represents the thought process of individual awareness (Sanders, 1982). Van Kaam (1966), as reported by Moustakas (1994), concluded that quantitative research and statistical methods impose restrictive methods that prevent the researcher from obtaining insight into the abstract of human consciousness as that consciousness interprets a particular phenomenon. A phenomenological research design as supported by Coleman's (1988, 1990) is a social capital theory that presents an appropriate method to explore the communication, orientation and mobility skills experience of deaf-Blind persons in ENADB at Addis Ababa.

The phenomenological study is well within the qualitative methodology and mostly "the cases of interest in education and social services are people" (Stake, 2006). So, to dig out the in-depth information and experiences of Deaf Blind children on communication, mobility and orientation, to the researcher this can be a case. Therefore, the researcher will be study using this research design.

In fact, the German philosopher Edmund Husserl (1859-1935) spent his life developing and refining the phenomenological approach to study to understand human phenomena that identified many applications of case in relation to activity experiences. For him the phenomenological design could be used either in an event, and activity or a process to describe certain issues of the lived experience situation or to explore those issues in the situations to understand how the parts operate together in order to understand the system.

The appropriateness of the study design parallels the purpose of the study: to understand the lived experiences of communication, orientation and mobility skill of Deaf blind

persons of the ENADB in the Metropolitan city Addis Ababa. Qualitative phenomenological research helped assimilate a comprehensive explanation of research participant's personal experiences as those experiences related to the understanding of the Addis Ababa environment traveling and communication skills.

According to Marshall and Rossman (2006), the framework of qualitative research consists of three major research models: "individual lived experiences, society and culture, and language and communication" (p. 3). Among the three ideologies identified by Marshall and Rossman, individual lived experiences represents the most appropriate research model to understand how the communication, orientation and mobility skill experience of Deaf Blind persons proceed within the Metropolitan city Addis Ababa surrounding environment.

Qualitative research methodology, using a phenomenological inductive approach that allows one to concentrate on specific situations and life experiences of people, emphasizes words of participants rather than the number of participants (Maxwell, 2005). Other qualitative research methods, such as grounded theory with a narrow data gathering technique and ethnographic research designs that require observation of study participants to form research conclusions, do not allow an opportunity to collect lived experiences about the phenomenon (Moustakas, 1994). The inherent openness and flexibility of qualitative phenomenological research contributed to an optimal medium for open-ended interviews that allowed for modification of the study design during the process of conducting participant interviews (Maxwell, 2005). Using a qualitative, phenomenological research methodology substantiated an approach to the phenomenon that is pragmatic and culturally sensitive (Marshall & Rossman, 2006).

With this understanding, the researcher has employed qualitative research methodology, using a phenomenological inductive approach, in that, the researcher believes that real data can gain greater insight in to the research topic by studying multiple individual cases. Here, collective case studies of around twelve cases are common. This is because it has been replicated the data many times and add more confidence.

It will be noted, however, that the research design will be subject to modification as issues and themes emerge in the process. In addition, producing rather than testing hypotheses is usually taken as the major outcome of qualitative research (Holliday, 2002). So, the researcher has tried to explore communication, orientation and mobility experiences of Deaf-Blind persons at the ENADB.

3.3 Research Setting

ENADB established in 2006. Located at the center of the oldest 6 kilo near AAU main campus Addis Ababa. It is in front of Ethiopian national association of the blind near by the side road way Yekatit Hospital to downside way to seba dereja. ENADB is exposed to lots of road land-marks, traffic jams, electric poles, car noise

And located at Addis Ababa, Arada sub city 6 kilo area left side to wereda 6 . The physical environment of the Metropolitan city Addis Ababa is not in good shape easily to handle and there is high scarcity of communication access for the Deaf-blind persons of the ENADB coming from the different corner of the Metropolitan city Addis Ababa. This causes problems for the person with Deaf blind of the ENADB for their communication and mobility. The transport stationeries have no clues and land marks. The surface area around the main and mini roads the Metropolitan city Addis Ababa almost all busy with cars and different kinds of small business it is not accessible for mobility for Deaf Blind persons of the ENADB. Mini roads are not arranged to the entire ways center to ENADB.

3.4 Sampling Technique

Qualitative research orientation is not interested in the representativeness of samples based on random sampling technique. But many of qualitative researchers agree that purposive sampling technique is found to be effective in many qualitative phenomenological studies (Maxwell, 2005; Johnson and Christensen, 2004; stake, 2006). And the researcher has been finding the type of purposive sampling technique with that of snowball has been more appropriate in getting pertinent information for the study.

Here, the director of the association has been located and introduced me the key informants to get important information.

3.5 Population

The ENADB center is currently offering its training and day care process in the regular program. The researcher has observed that, there are 77 deafblind, from 77 those of 65 deliver the daily living care i.e. toileting, feeding and clothing and 12 deaf blind offering training skills on communication, orientation and mobility in addition to this there are also 6 care givers. My study target populations are those 12 Deaf blind persons delivering skill training on communication orientation and mobility skills.

3.6 Research Participants

The researcher, therefore, has selected a total of 6 (key informants) participants using purposive sampling. The researcher has been including those with experienced of Deaf Blind persons who are more knowledgeable and active participants in his area of inquiry. The selection of key informants will be made using the help of the managing director to locate the participants. Such purposive sample type is called Snowball. This has been done to make just to get different perspectives. Finally, the researcher also has considered their willingness to participate in the study as one criteria of selecting the participants.

So, 6 deaf-blind persons will be select purposely by Snowball technique. These Deaf Blind persons are the main research participants. This means their communication, orientation and mobility experiences have been going to study.

The accessibility of the main communication systems of Deaf blind persons of the ENADB and the physical conduciveness of the Metropolitan city buildings, the main and mini road-way leading Deaf-Blind persons from different corner of the Metropolitan city Addis Ababa to their daily target places as well as sport field ground site has been selected for observation.

3.6.1 Total population

The total population of my study area includes 12 Deaf blind persons who deliver training on communication, orientation and mobility skills.

3.6.2 Sample

The researcher using purposive sampling with that of snowball for the selection of the target group from the total of 12 population.

3.6.3 Samplesizes

The key informants or participants have selected a total of 6 Deaf blind persons who are deliver training services on communication, orientation and mobility skills.

3.7 Data Collection Instrument

The study has been used qualitative phenomenological approach with multiple case study research design method. It has focused on the communication, orientation and mobility experience of deaf-blind persons. So, to obtain adequate information for the study multiple-method (triangulation) approaches have chosen. These multiple method have included interview, focus group discussion, observation and pictorial representation.

3.7.1 Interview

To collect pertinent primary data, the researcher has used interview as the main instrument in getting the multiple views of participants (salvia and ysseldyke, 2004; Thomas, 2011; Johnson and Christensen, 2004) regarding the communication, orientation and mobility experiences of deaf-blind persons in ENADB. The researcher will be employ an open-ended semi-structured interview guide with the research participants in order to get their perspectives, knowledge, feeling and experiences on the actual ordinary basis. This in-depth interview creates an opportunities for openness, flexibility and naturalism in discussion, that is, it is directed towards studying reality as it manifests in

everyday life events (Thomas, 2011) in the school. So, “how” and “why” questions will be using focusing on the orientation and mobility experiences. This will allow the researcher to be flexible in exploring experience of participants freely so that it has been possible to capture and will record the main information (data) during the interview.

3.7.2 Focus Group Discussion (FGD)

Focus group discussions (FGD) have been another instrument to collect data for the study. The researcher has given different points related to Communication, Mobility and Orientation experiences of Deaf-blind persons and their parents as well as the care givers raise unclear ideas on the interview session.

The FGD has made in the compound of the ENADB. The FGDs has managed by the researcher; and the note will be taken by tape recorder. The group participants will be four care givers from ENADB purposefully & by snowball. These informant care givers has been discussing in the classroom for 1:15 hour.

Here, to the researcher, in focus group discussion, the researcher has been asking guide question. The researcher has not controlled the discussion. However, the researcher has been a facilitator or moderator. According to Thomas (2011), the aim of the researcher is to facilitate or moderate the discussion among participants.

3.7.3 Observation

To collect pertinent primary visual data, the researcher has used observation as one of the data collection instrument. Being one of the most important data gathering tools in social and educational research (Somekh & Lewin, 2005; Thomas, 2011), observation is useful in understanding the complex human interaction (Salvia and Ysseldyke, 2004) in and out of the actual classroom situation. The researcher has taken the role of “participant-observer” within the situation and record and watch what is going-on. This is said “unstructured observation” Thomas (2011). This observation has supported by Figures that will be describe more than words.

To carry out the observation, the researcher has been developing an unstructured-observation guide which is open and flexible instrument having just some points of interest of Mobility and orientation study of Deaf-blind with hard of hearing person .

Special attention will be given to input and process variables such as:

- Communication and Movement of deaf-blind persons
- Accessibility of physical environment to the children
- ENADB and A.A city administration community Support for the deaf blind communication and mobility
- The challenges to communication and mobility the surrounding environments of the Metropolitan city Addis Ababa.

The research enabled the researcher to have a good view of all possible dimensions on communication, mobility and orientation of the Deaf-Blind with low vision/hearing impairments and totally Deaf-Blind persons in the ENADB.

3.7.4 Pictorial Representation

The pictorial representation has been preceded after the interview data collected from the interviewees. Then after, the researcher has tried looking the raw data and he has searching if there is anything that can be match with the response of the deaf-blind persons. Therefore, the researcher has got many photos by the eye of camera that can be described as it is. So this can helped the researcher to triangulate the data from different sources collecting instruments. Auto-photography is a qualitative field research method that attempts to 'see the world through someone else's eyes'. Of course, seeing from another person's position is a fraught process since gaining the true perspective of someone else is impossible. Auto-photography, however, provides a tool in qualitative and ethnographic research projects that moves a step toward understanding what qualities of environments and places are important for research subjects in their daily lives (Thomas, 2009).

3.8 Data Collection Procedures

The researcher has been started collecting data after he developed the data collection tools. The researcher used a participant-observer method by which he just will find himself as an insider so that he will be able to watch what is being done and said in the ENADB and surrounding environments site with specific interest to issues related to communication, mobility and orientation of Deaf-blind persons in the natural setting.

During observation, the researcher has made every effort to take a fresh look at record every important thing in each area using field notes and some photographs with their description to show the basic features and their impacts to the communication, mobility and orientation of Deaf-blind persons.

Field notes, according to Bogdan and Biklen (1992), is the written account of what the researcher hears, sees, experiences, and thinks during the research process and consists of two parts called descriptive and reflective contents. The descriptive content is the detailed statements of the setting or event, which is believed to be more objective written records, and the reflective part of the field notes contain the researcher's personal within account of the research process, which is commonly designated as "observer's comment". So, the movement style of deaf-blind persons accessibility of physical environment and ENADB surrounding areas, the support of social environment for the persons communication and mobility, the impact of mobility problems on learning and the way how Deaf-blind persons establish communication and orientation to move has been the focus of the researchers observation.

The researcher has tried to capture all these things and record using an extensive field notes. This has done until the end of the research schedule for the data collection which has carried out for nearly to the month march 3, 2020. The researcher also has also informed by the Manager of the association to select the research participants. Each participant will be interviewed to get his/her personal understanding, view, concerns and their experiences related to communication, mobility and orientation. The interview has

conducted with all selected participants in a conversational and friendly atmosphere using Amharic language so that it has been easier to communicate. Starting with a few outlined guide question, intensive interview has been conducted as further issues emerge in the process. The depth of conversation has gone beyond surface talk and rich discussions of feelings and ideas has made. With the exception of the major basic research questions, each and every questions, issues or themes are not always rigidly planned so that some important issues and questions has emerged as the interview is under progress. That is the way qualitative inquiry goes-its research design is emergent or evolving (Maykut & Morehouse, 1994).

All of the Interview sessions have been audio-taped and later to transcribe so as to maintain the full meanings of the “narratives” (Yin, 2003:103-104) that help to capture each participant’s perspectives on the issues that has discussed. The process of transcribing and translating the Amharic version in to English may take weeks and it has been tedious. Each interview session has conducted in the convenient place within and outside campus, such as unoccupied offices, silent class rooms. Each session has been last up to one hour, depending on the interest and willingness on the part of the participants. The time has allowed the researcher to establish rapport with the participants for developing a climate of trust and know deeper about their perceptions regarding communication, mobility and orientation. Two or more interview sessions has arranged for each interviewee. The researcher, himself, has conduct all the interview sessions.

3.9 Methods of Data Analysis

All the lived experience data obtained from the participants were transcribed, classified, and organized into a case record. Then, in-depth case histories were described in a complete but manageable manner to make the reader understand all the necessary information about the lived experiences.

Then the transcripts were read thoroughly to get familiarized with the information, before the process of coding began. Coding as described by Miles and Huberman (1994) is

reviewing a set of information and dissecting them meaningfully, while keeping the relations between the parts intact. Accordingly, certain codes (tags or labels), initially derived from the key lived experience that the study was intended to explore were developed and were assigned to the note by making in the margins. Then, similar phrases from different participants, relationships between various codes and Common patterns in responses were noted.

In relation to organize data in to descriptive themes, the researcher has been adapted the constant comparative data analysis method that has employed in-depth analysis for case study composition. In this case, the lived experience data that has been collected through interview, focus group discussion and observation have been analyzed using constant comparative method through data again and again comparing each element, words, phrases and statements by using the opencode3.6 software to arrange all the written case lived experiences by words, phrases, statements, paragraphs that have used to code for similarities and differences so later has come to made categorized according their similarities and differences for to make up themes and sub themes at he final step to be describe appropriately.

The codes within each participant the lived experience were closely studied for similarities, differences and recurring patterns. Pattern analysis helped to reduce the amount of data into more manageable units and laid the groundwork for analysis across cases. As the units were thoroughly examined, larger patterns, or themes, were developed. These themes reflected a broader perspectives or concepts. Then, the themes were analyzed, where the analysis sought to relate and make sense of the different patterns and themes, which had initially been identified by the coding. Finally, comparisons were made, meanings were extracted from the data, and Conclusions and implications were drawn.

The foundation for analysis of data in the current study was Husserl's (1913/1931) transcendental phenomenological reduction process. Transcendental phenomenological reduction consists of a method to examine the research participant's original

interpretation of a research phenomenon as that phenomenon affects the sociological mindset of the participant (Moustakas, 1994). Using opencode3.6. Qualitative data analysis software, a modified seven-step Van Kaam method, as described by Moustakas, provided the first step in data analysis. In a Van Kaam data analysis process, the researcher must first identify and list similar participant data taken from notes and recorded interview sessions and allow for “horizontalization” of data to establish preliminary trends in the data (Moustakas, 1994, p. 122). The second step in the modified Van Kaam data analysis process is reduction of participant data and elimination of superfluous information not relevant to the study phenomenon (Moustakas, 1994). According to Moustakas, the two-step process involves determining if participant input relates to the phenomenon and if the data are classifiable. Classifiable information relative to the phenomenon constitutes the third data analysis step of “clustering and thematizing” input from study participants (Moustakas, 1994, p. 121). Relating participant input to the rising themes of participant experiences encountered during constitute of orientation and mobility skill experiences of Blind students step four of the analysis process. Step five, after identification of emerging themes, relates the thematic input from participants to the study questions and step six is documentation of participant perceptions about the phenomenon. The final step in the data analysis process for the current study is preparation of a transcript of participant thematic responses gained during the interview process for documentation of participant perceptions about the phenomenon Moustakas (1994) reported that word for word transcripts of interview sessions contain original descriptions of personal experiences relatable to the research phenomenon that often reflect an unchanging view of the research participant. A specific goal of data analysis, during and after completion of data collection, is classification of themes that surface from the data (Creswell, 2005). Modern technology, through use of qualitative data analysis software, helped identify themes within the data (Creswell, 2005). For the current study, the computerized opencode3.6 qualitative research software helped ensure all relevant code and categorization that lead to themes surfaced during data analysis by the researcher comparing the twelve lived experience cases to

frame cross- cases analysis from the more repeated phrases by critical thinking and comparing has been made.

3.10 Standards for Evaluating Qualitative Phenomenological Research Study Quality

For the researcher focus of inquiry is a qualitative approach using a phenomenological study. So, the researcher has followed some guide line developed by Thomas (2011), Yin(2003) and stake(2006) are quite applicable to the researcher's study and the researcher will be try to adhere to it in all phases of the research process. This guideline consists of the following checklists for quality assurance of research:

1. During data collection;
 - will there be a prolonged engagement with data source?
 - will there be persistent observation of emerging issues?
 - will raw data be adequately check with their sources?
2. During the analysis of raw data;
 - is there be sufficient triangulation of raw data leading to analytic statements?
3. During interpretation;
 - is this clearly outline?
 - has a critical friend carefully try to challenge the finding?
4. During reporting the research;
 - is the account of the research sufficiently detailed to give the reader confidence inthe finding?
 - does the case record provide an adequate audit trail?

3.11 Ethical Consideration

Ethical issues are critical elements of any research endeavor, and even more in qualitative case study research, where human affairs is the focus of inquiry (Thomas, 2011).

Through the whole of this research activities different ethical considerations will be considers, including the privacy and confidentiality. Besides, this major two, the following points will be recognized for the research participants.

- Every participant will have the right to know and understand the topic, significance and objectives of the study.
- Every participant will have the right to be participants of the research voluntarily not forced or persuaded.
- No way to connect the participant's information for external or third body.
- Every participant will have full right to be out of participation at any time he/she every participant will have the right to be informed to keep all their data in a safe place.

CHAPTER FOUR

PRESENTATIONS

4.1 Case Presentation

This section of the paper presents the histories of the Deaf-blind persons. A comprehensive case history is written up based on the detail interview obtained the information from the Deaf -blind persons.

Table 3: - Background of Deaf-blind persons who were interviewed

Name	sex	Age	Grade	Impairment	Onset	Causes	Deaf-blindness in family	Parent's occupation	Parent's level of education
Asrat	M	14	5	D.B with H.H	10	Trachoma	No	Laborer	Grade 6
Tutu	F	18	4	D.B with L.V	15	Trachoma	No	Peasants	Grade 5
Aynalem	M	26	5	D.B with L.V	16	Unknown	No	Cleaner	Grade 9
Kassech	F	19	6	D.B with H.H	13	Trachoma	No	Laborer	Grade 6
Lukas	M	37	10 complete	D.B with L.V	26	Trachoma	No	Laborer	12 complete
Bekelech	F	16	7 G	D.B with H.H	8	Unknown	No	Laborer	10 complete

The case histories were developed in the way that they could give in-depth information about the lived experience of Deaf-blind persons of the ENADB on Communication, Orientation and Mobility skill at the different corner of the Metropolitan city Addis Ababa environment where deaf blind persons of the ENADB exposed to their daily basis activities. To give more realistic information, some sensitive issues are presented in

informants' own words and other issues being reported. In addition, the researcher's personal reflections were included in the form of observer's comment (O.C.).

All the names used in case presentations are pseudonyms and the exact appearance and living place of the informants are not described here, but the wide areas have mentioned by agreement. This is due to the delicate nature of the issue and for some ethical reasons.

Case 1: - Asrat

Asrat is a boy whose age is 14. He lost his sight ability at the age of two. The cause is Trachoma. His hearing abilities get hard at age 10. He got chance to train sign language at Ethiopian deaf association at Sadist Kilo area. At age 12 his blindness with hard of hearing became worst and he joined to the ENADB.

He is the only boy for his mother. They lived at governmental (kebele) small house. He and his mother were lived in front of American embassy (Shuromeda) village below the main road. His mother's economic background is very low.

His mother tried medical, spiritual and traditional treatments to cure her child even though it doesn't work. After realizing his deaf-blindness, the child's mother's effort was changed to adjust the educational provision and join him to teach in the regular class.

When asked about how he experiences communication and mobility throughout the Metropolitan city Addis Ababa environment, he responded that as:

Communicating without my care giver or family member is very hard after getting hard of hearing. They communicate with very close distance or by tactile communication. The movement from home area to the surrounding mini and main ways and walking ups and downs stairs of high buildings has some difficulties. I feel too much fear when I was alone. I feel fear for edge of the stairs without ramp and handrails. I might fall to the ground. I and my friends' who have Blindness with hard of hearing need a guarantee for communicating with other persons and movement. I have lost my Confidence when I

was alone. I cannot go without handrail up and down Stairs. During this time I have developed fear in my heart.

Asrat narrated his feeling as follows:

The up and down of the mini ways of the village where I live was broken. The stairs of the mini ways are not suitable for cane independent travel. I have been missed the steps while using cane travel techniques. I have lost my cane because of the broken mini ways. Later on, I have tried to navigate using my fingers and I have got my cane. At this time, I have understood that the mini ways are broken and are not suitable for independent cane travel. The mini ways should be repair. The main ways are also full of small business, parked cars and pedestrians.

For instance, the taxi stations on the main ways of the surrounding environment of 5kilo along to ENADB, there is no available pavement from one side to another side of the , it is overcrowded of business man.

My mother has told me how to walk, jump, eat, and wash my face, head and legs with practical demonstration. I also had understood everything. She told me how deaf-blind persons moved from place to place with white Stick that's why I have tried to move from my village to the nearest area.

The path way of the village is not appropriate for us. To move, I need landmarks with appropriate curb indicators to the different mini ways and specific areas. I always face difficulty to communicate and to form mind map of the surrounding environment of Addis in order to communicate and move independently.

The designs of streets are not suitable at all. There is no mechanism that can helpus easily cross streets. Many cars can come with speed and since we have no mechanisms to cross the road, we have to face the consequence and cross in the midst of many cars, when we ask others to help us most of them just ignore us.

Asrat has narrated his feeling on the situation of the barriers on the pavement as follows:

The problem I face most on the walk side the school environment is crashing against pedestrians. My Cane was broken several times because of this. Sometimes I jokingly said, "Do we have to change Side places, who is not sighted here you or me?" I always draw the map of the road in my mind. If individuals tell me that there is a pothole nearby, I carefully avoid it. If I do not know the nature of the street, I ask persons to tell me where the potholes are and then I Study the places carefully using my cane, this is my Strategy. Some individuals say "may God give you" when I ask them to help me cross the Street. Some want to give me Coins but what I want them to do is just to help me cross. So, I tell them that I only want them to help I me cross the street.

Asrat has narrated his feeling regarding the communication with other person to assist and usage of white cane and the knowledge of drivers as follows:

I used hearing aid sometimes for my hard of hearing to communicate with other persons when I need help and to understand the sound source around me. Here is an example of me around 4 kilo in front of Kidist marim church before crossing the Zebra pavement I have tried to listening to the direction of traffic before I crosses the Street. However, I have experienced that I can say all, but not some have understood the white stick (cane). I have no choice but Stay longer time to get someone to help me to cross the Street. The people who are cross the Street forth and back are very busy and in hurry. After long time I have gotten someone to help me to cross the Street. Because of this I worry on my disabilities and my best chance is choosing isolation from anybody around me.

The researcher also asked how he communicates and orients to get his surrounding environment of the Metropolitan city Addis Ababa: he responded that his family has supported him by expressed in oral language to expand his understanding regarding his

environment. He also used his sense organs to understand his environment by the ear (residual hearing), nose and body skin.

I used my ear (residual hearing) to listen and understand what is going on around me. This information helped me to travel safely and independently. My mother has told me many times to understand the sounds. I can understand the main sound sources and those masked sounds by their tone of power to my ear. This information helped me to make decision to understand and to move or to ask for help by surrounding people. However, around my Association the number of cars, small street business and their sounds made me confuse to crossing the sadist kilo square road area to my association gate areas. I forced to wait till to come my care givers. Some drivers not understand us. I feel it bad.

I used a collaboration of my sensory organs. Mainly I used carefully my residual hearing ability to distinguish different sound sources. In addition to this I also used my Skin organs to understand the vibrating surfaces because of the types of the cars. As my care givers told me that the Small and big cars do not have pressure on the surface as the result the big cars Vibrate the Surface areas. Moreover, I also used to identify my area by my nose. For example I can understand the odors or smell of lions that is the cage of lions. These odors Smell helped me to understand where I am. I can also understand the sounds that come from the Markos church. Having this understanding I tried to cross the road using my Cane.

The researcher also asked how he experience ENADB and Metropolitan city administration of A.A community support for his communication and mobility, he said that all the community members are not the same on behavior. He also adds as:

I have deaf-blind friends in the ENADB and Deaf peers around my residential area. I have good communication with them. What ever happen upon me, I am not feeling bad. I tried made clear explanation regarding us. I can understand what

they said and I participated in every friendship plays with them. However we were not asked and our participation has never been asked on the legislation that is prepared. It has never been practiced in the A.A city administration. We know that we should give our suggestions as to the UN conventions as well as the experience of the ENADB abroad. However, we were never asked to forward our suggestions before and after the preparation of the city administration legislation. No orientation given for persons with deaf-blind about our rights and legal rights as nothing was put into practice, nobody knew about the legislation of Addis Ababa city administration. As the result we persons with deaf-blind did not know about the theoretical or practical intention of city administration legislation. We are the neglected and disadvantaged persons in the Metropolitan city Addis Ababa.

To improve the above mentioned problems associated with his communication, orientation and mobility skill experience development, he suggested the following ideas:

- A.A City administration community should have to get training of tactile communication and sighted guide technique in order to support me and deaf-blind person's.
- The Concerned body the ENADB as well as the metropolitan city administration should prepared the protection techniques at familiar and unfamiliar environments for me and to my association members.
- The ENADB and the city administration should prepare street crossing techniques using cane to deaf-blind persons.
- Deaf-blind persons should have to get training of using land marks and street clues to move independently and safely.
- The ENADB deaf-blind persons should have to get training and Skill of distance judgment and time by concerned bodies and the A.A city administration also facilitate the program.

- The mini ways Corridors should be free from strait business and to allow mobility of deaf-blind persons.
- Offices deliverservices to deaf-blind persons in the different sectors of A.A city administration should be located at the ground floor.
- Special toilets should be prepared for deaf-blind persons.

Case 2: - Tutu

Tutu is a girl of 18 years old. She is college student. She lived with her parents at Ankorchha area in Addis Ababa. She is the only son for her mother and father. She is the youngest in her family. Her onset of deafness is postnatal at the age of 9 years due to Trachoma Bacteria and the onset of losing her vision at age of 15. She said that her parents have very low daily income that is not affordable to cover their needs.

When asked about how she experience communication and mobility in the ENADB andthroughout the Metropolitan city Addis Ababa environment, and she responded that as:

So far, I used my both hearing and vision sensory organs at my early age so that communicating with other persons and moving from one place to another was silly until at age of 9. I attend grade 1 up to grade 3 with hearing students in the regular class and grade 4 with deaf students. It was as donkey class as to me to attend with deaf children's at grade 4 and within one academic year I was familiar with sign language and easily make friendship with deaf students , their teachers and familiar with sign language. After graduation of grade 8 suddenly my vision ability goes down and I have got low vision.Immidately my mobility experiences decrease my familiarity with sign language face hard to communicate with my friends why because I need very close distant to communicate and most of my deaf friends and my family have got hard to communicate with me due to deaf blindness. I attend my high school and college education by using sign language with very extreme closest to the interpreter or any other deaf signer. All the past

events traveling on foot easily to school without any hesitation was starting from grade 9 up to now dream for me and that brings burden to move from home to school. I have gotten the chance to get the short training on mobility using cane by the help of my mother with the one teacher who is our neighbor. For me it was good opportunity to get the training.

When asked about how she defines the obstacles she faces on daily basis of the ENADB and Metropolitan city Addis Ababa environment, and she responded that as:

The miniways from her home to the main way is very hard cracked, many slides, ups and downs, very old and broken and are not suitable for cane independent travel. I have been missed the steps while using cane travel techniques. I have lost my cane because of the broken slide ways. Later on, I have tried to navigate using my fingers and I have got my cane. At this time, I have understood that the mini ways are broken and are not suitable for independent cane travel. The mini ways to the main way should be repair.

Tutu has narrated her experience on the main way while she is going forward, backward and up and down ward as follows:

The main ways at every corner of Addis Ababa has some difficulties on the side way areas there are straight business, parked cars and no land marks unnecessary over crowdies. I feel too much fear when I was alone. The edge of the main ways in some area has not handrails. You might strike to the parked car and fall to the ground. I and my friends' who are with deaf blindness need a guarantee for movement not to face difficulty for mobility but the side ways of the main ways handrails at Some parts have broken totally or have not at all. I have lost my Confidence when I was alone. I cannot go without my care giver or handrail the side ways of the main way. During this time I have developed fear in my heart.

For instance, the main way to the from sdist kilo square environment to ENADB gate, there has no available pavement there are parked cars in front of the national court office ,there are sideways small business enterprises. It is a full of some complicated area that was obstacle for mobility of me.

When asked about how she experience mobility of the mini ways, the main ways and the surrounding environment of the ENADB and the Metropolitan city of Addis Ababa environment, and she responded that as:

Mobility for me is not simple task. I have used a collaboration of all the other sense organs. I can use for mobility cane travel techniques for my mobility. The problem I face most on the walk side the city environment is crashing against pedestrians. My Cane was broken several times because of this. Sometimes I jokingly said to me myself,” Do we have to change Side places, who is not Sighted here you or me?” I always draw the map of the road in my mind. If individuals tell me that there is a pothole nearby, I carefully avoid it. If I do not know the nature of the street, I ask my care giver to tell me where the potholes are and then I Study the places carefully using my Cane, this is my Strategy. Some individuals say “may God give you” when I ask them to help me cross the Street. Some want to give me Coins but what I want them to do is just to help me cross. So, I tell them that I only want them to help I me cross the street.

She has also explained about her impression regarding the street situation as follows:

The designs of streets are not suitable at all. There is no mechanism that can help us easily cross streets. Many cars can come with speed and since we have no mechanisms to cross the road we have to face the consequence and cross in the midst of many Cars and cars that are travel with speed. When we ask others to help us cross the street most just ignore us.

I usually face difficulty in the pavement for pedestrians, cars are parked in it. Actually, I have lost my stick that has crashed by the car.

I usually go by my foot with the help of stick. However, I do not know in which side the pole has presented. The poles that are planted in the midst of the pedestrian pavement usually hit my nose and forehead. For the sake of meeting and short term training in the ENADB I face problems on my traveling.

O.C.: the researcher began to wonder if the researcher was really a blind not that of sighted and traveling on the pavement of this area. The researcher also asked himself. What is the purpose of plants to do with the central area of the pavement? What is the purpose of digging many ditches with heaped some sort of soil around pavement without inform to pedestrians? Then Meseret has reached sdist kilo square in front of the yekatit 12 Hospital. The major problem the researcher have had observe is the people traveling up and down on the pavement with speed and some passengers are walking by block the pavement.

Tutu has a lot of internal expression during the rainy time while she is going to the association as:

I move from my home to ENADB with a full of fear. Like this time, the starting of summer time, I usually fall into the potholes that are left by the Tele or the Municipality. It is especially difficult during the rainy season. I once entered into a pothole while hurriedly going to the meeting. I was wet and came to meeting with all the mud and the water.

The pathways I use today will be changed tomorrow, making it difficult to draw a mental picture. I usually travel by myself and the major problem I face in my day to day life is the impediments posed by poles and potholes.

Recently, I have lost two of my front teeth due to a crash against an electric pole that stands on the pedestrian pavement.

The researcher has also asked how she orients to get her living ,learningenvironment of the Metropolitan city A.A and ENADB environment ; she has responded that her family has supported her by expressed in simple tactilelanguage to expand her understanding regarding her environment. She also has used her sense organs to understand her environment.

I used nose to understand what is going on around me. This information helped me to travel safely and independently. My mother has told me many times to understand the ongoing situation by using nose. This information helped me to made decision to understand and to move or to ask for help by surrounding people. However, around my association the number of cars and their sounds made me confuse to crossing the road from lions cage area to my association entrance gate areas. I forced to wait till to come my care givers. Last year I was crashed with the parked car and then I failed down. The concerned bodies not understand us.

She has also narrated the Metropolitan city community as well as the stakeholders and the city administrators support mechanisms as follows:

The Metropolitan city Addis Ababa communities have no awareness about deaf blindness and our association. The community do nothing .My families, especially my parents have given to me their time to understand my surrounding while I am traveling to my daily basis needs and back to my home, They have bought Slate and Stylus to me and also they talked with yemisrach center that have had training of how to write and read Braille for Beginners. Now I can write read what I learned before. This is also the second opportunity to me. My parents give equal chance to talk to discuss with my language at home. My mother when she was at home, she ordered me to do different duties and I willing to do so. I

feel good when I was at home. I am not feeling as a deaf blind at home. We have debating program at home. All we have the chance to explain our believe. I feel so good at home.

The reaction of my old deaf friends is not so bad. I have good communication with my association members and all of them are good friends to me. I have discussed regarding our association condition and work with them, they also have tried to delegate and indicate me to have strong stand to improve the situation of our association. However, lack of clear and enabling policies for persons with deaf-blind. In general, there are no suitable rules and regulations to persons with deaf blind in Addis Ababa that ascertain the rights and equal beneficiaries of persons with deaf blind..There is no law or system that is legally documented and implemented so as to respect the right of person with deaf-blind. It is difficult for me to say there is a clear policy or law in Addis Ababa city which enables persons with deaf blind to get different support and make adjustments on those things provided to us. I said this because I do not know whether there is a policy or law in relation to the issue you raise though there is some support the ENADB provides, they do it not because it is our legal right but because they do consider it as a charity.

Our association really good in the daily care center situation while giving services. However, they have a big scarcity in budget and no body from the side of the government understands our living situation, we are neglected as well as disadvantage group. On the side of the government still there is no practical stand educating persons with deaf blind.

In the future, she wishes to see some improvements and rearrangements like:

- The ENADB and concerned bodies of the Metropolitan city Addis Ababa administrations should prepared street crossing techniques using cane to Deaf-blind persons.

- The practicing of seating in different Situations and using of public transportation system to Deaf-blind persons should be considered by the concerned bodies.
- Peer groups to Deaf-blind persons have to train tactile communication and sighted guide technique in order to support Deaf-blind person's communication and mobility.
- The ENADB Concerned body should prepare the protection techniques at familiar and unfamiliar environments for Deaf-blind persons.
- Deaf-blind persons should have to get training of Systematic search patterns to objects as well as to their familiar environments.
- Deaf-blind persons should have to get training of how to communicate with other persons and using land marks and street clues to move independently and safely.
- The ENADB Deaf-blind persons should have to get training and Skill of distance judgment and time by concerned bodies of the Metropolitan city A.A administration and the ENADB also facilitate the program.
- For Deaf-blind persons, understanding of directions is not as simple as sighted peers. Therefore, the concerned have to have to prepare training using compass direction to Deaf-blind persons.
- Foot paths should be free of obstacles such as electric poles, and other barriers.
- Poles should be planted in a systematic manner away from the middle of foot way.
- Prepare arrangements in the streets such as Curbs, landmarks to help Deaf-blind persons to use the foot way and cross the road.
- Paths for animals, people and cars should be differentiated.
- Potholes and ditches should be covered in the foot way.
- Provision of audible traffic signals to inform Deaf-blind persons with hard of hearing that it is Safe to cross the Street.

Case 3: - Aynalem

Aynalem is a girl whose age is 26. She has lost his sight ability at the age of 8. The cause is Unknown and she has got hard of hearing at age of 16. The cause is unknown.

Aynalem and her Parents lived at governmental kebele old house around adissu gebeya area. Her parents checked her health condition with the help of medical, spiritual and traditional treatments to cure their child. Then after they have realizing her disabilities and they decide to teach her in the regular class.

The researcher then introduced the overall aim of the research and secured some basic information about the person. The first physical contact with her was made in the ENADB environment near by the old compound with the help of the manager of the ENADB.

When asked about how she experience of communication and mobility of the surrounding environment of ENADB and the Metropolitan city A.A, she expressed the past and current her experience during the second contact. The interview was lasted for about 45 minutes. She expressed her experience of mobility and communication as follow,

I used my neighbor partial sighted friend to move from place to place. She tried to travel alone but she said fear is coming. She does not got training of mobility. Mobility to toilet, walking to indoor and outdoor area traveling to the outside far area of the Metropolitan city A.A is very hard to me. Library to get books that are written by Braille was depending on my partial sighted friend.

When asked about how she experience mobility outside of school environment, she said that she sometimes guides by her mother. Most of the time she has traveled by sighted

guide of her friend. She has cane and she used that at familiar area when she understands it. She described her impression about communication and mobility as follows:

Everything takes longer when I communicate with other persons and walk due to my deaf-blindness. I always draw the map of the road in my mind but the next day the pavement was changed and the community individuals want to tell the information but our communication ways of nature new for them and they ignore us because of the gap of communication accesses. If individuals tell me that there is a pothole nearby, I carefully avoid it. If I do not know the nature of the street, ask persons to tell me by gesture where the potholes are and then I study the places carefully using my Cane. This is my Strategy.

The researcher asked how she orients to get her surrounding environment of ENADB and the Metropolitan city A.A; she said her impression as follows:

I used my ear(residual hearing) to listen and understand what is going on around me. I also used my smell to differentiate my surrounding area. This information helped me to travel independently if I know the area very well. My mother told me many times to understand aware of the sounds around me. So, I can understand the main sound sources from my experience but I can not to differentiate those masked sounds by their tone of power to my ear. This information has helped me to made decision to understand and to move or to ask for help by surrounding people.

The researcher has also asked how she orients to get her surrounding environment of ENADB and the Metropolitan city A.A.; she also started to express as follow:

The path way of the mini ways of the ENADB and the Metropolitan city A.A Street is not appropriate for me. So, to move to different places, I need landmarks with appropriate curb indicators to the different areas in the big offices and specific areas. Therefore, I always face difficulty to form mind map of the School

environment in order to display independence mobility. Hence, I used my ear (residual hearing) to give attention the sound of students while they are moving to different direction of the rooms and offices to draw my mind map. After this, I have discussed with my Deaf-blind friends to share our daily experience. This and that has deep talk among us. For instance, the up and down Stairs of the mini ways are broken. So, we have discussion time regarding the broken mini ways with my Deaf-blind peers. In such a way I and my friends oriented ourselves about the environment of our surrounding environment-of ENADB and the Metropolitan city Addis Ababa.

When asked about how she defines the obstacles that she faces on the daily basis of ENADB and the Metropolitan city A.A surrounding environment, Aynalem explained as follows:

For instance, most of the mini ways of the surroundings are full of small business, the available pavements covered with different kinds of small business. It is also full of some parked cars that are obstacle for mobility of me.

The up and down of the mini ways are broken. The mini ways are not suitable for cane independent travel. I have been missed the steps while using cane travel techniques. I have lost my cane because of the broken mini ways. Later on, I have tried to navigate using my fingers and I have got my cane. At this time, I have understood that the mini ways are broken and are not suitable for independent cane travel. The mini ways should be repair. At the main ways edges, the handrail also broken due to car crash and some main ways have not handrail. The up and down mini ways also have lack handrail. It is very challenging for my mobility.

When asked about how she defines the obstacles that she face on daily basis outside of ENADB environment, she said as:

The problem I face most on the walk outside of the ENADB environment is crashing against pedestrians. My Cane was broken several times because of this. Sometimes I jokingly said, "Do we have to change Side places, who is not sighted here you or me?" I always draw the map of the road in my mind. If individuals tell me that there is a pothole nearby, I carefully avoid it. If I do not know the nature of the street, I ask persons to tell me where the potholes are and then I Study the places carefully using my Cane, this is my Strategy. Some individuals say "may God give you" when I ask them to help me cross the Street. Some want to give me coins but what I want them to do is just to help me cross the street. So, I tell them that I only want them to help me cross the street.

The researcher also asked how she experiences the ENADB and Metropolitan city Addis Ababa community support for her communication and mobility, she said as:

My association is supporter of me. They guide me how I want to communicate and travel to the surrounding environment of ENADB and the Metropolitan city A.A. The ENADB care givers also helped me to train the way how to communicate with other persons and the ways of traveling alone the surrounding environment. My care givers are really good in training. They have given me time while they are assisting. But one thing is missing in them that they are not certified in the communication and mobility and orientation field.

O.C.: the researcher began to wonder if the researcher was really a deaf-blind not that of sighted and traveling on the pavement of this area. The researcher also asked himself. What is the purpose of plants to do with the central area of the pavement? What is the purpose of digging many ditches with heaped some sort of soil around pavement without inform to Deaf-blind persons?

Case 4: - Kassech

Kassech is a girl whose age is 19. She has lost his sight ability at the age of 15. The cause is Trachoma. Her hearing ability decreases as hard of hearing starting at 13. She is grade 9 student now. She has a sister and a brother and also parents. They lived in small house. They lived near to around Kera Gofa Gebreal area. Her parents were tried spiritual and traditional treatments to cure their child. After realizing her disabilities, the child's parent efforts were to teach her in the regular class.

The first interview took place in the ENADB after introducing the manager of the association her with the researcher. Then, the researcher made appointment after securing consent of participation in the study through a phone from her home.

O.C. The child was easy to talk and had no reservation to share her experience on her mobility and Orientation skills she has.

Then after having discussed on basic issues, an appointment for another interview was made and departed. The second and third interviews were undertaken in Deaf-blind association area and the last one around her village mini way up and down.

O.C. All the interview sessions were interesting and she was happy to talk about the issue.

When asked about how she experience of communication and mobility around ENADB and the Metropolitan city Addis Ababa environment, she expressed the current experience as follow: She used to communicate by hearing aid easily and move from place to place by sighted friends around her neighbor. She was tried to travel alone with phobia in her home area. She did not get training of communication and mobility. The activities like mobility to toilet, traveling to classroom, walking to library to get some books that are written by Braille, in all, she has depend on her sighted friends.

When asked about how she experience mobility outside of ENADB environment, she said that she sometimes guides by her sister. Most of the time she has traveled by sighted guide of her friends. She has cane and she used that at familiar area if he understands it

otherwise she has called her sister by phone. She has told to the researcher that everything she takes longer when she walks, when she goes to target place it takes longer time, to get to the place.

The researcher also asked how she orients to get the surrounding environment of ENADB and the Metropolitan city Addis Ababa; she said her impression as follows:

Orientation for me is not as such simple task. I need collaboration of all the rest my sense organs. I used my ear to listen and understand what is going on around me. This information helped me to travel independently if I know the area very well. My mother has told me many times to understand aware of the sounds around me so I Can understand the main sound sources but not those masked sounds by their tone of power to my ear. This information helped me to made decision to understand and to move or to ask for help by surrounding people.

The researcher also asked how she orients to get her nearby areas; she also started to express as follow:

The path way of the school street is not appropriate for me from gate to classrooms. So, to move to different offices and classrooms, I need landmarks with appropriate curb indicators to the different buildings and specific classes. Therefore, I always face difficulty to form mind map of the School environment in order to display independence mobility. The discussion that has made at the break time with other blinds helped me to understand in the school environment. But, this type of orientation is not based on training. It is traditional way of awareness.

The roadway, the Street, the pavement and the Zebra crossing Street have no accessible situation for Deaf-blind students. The parking area of taxi and also cars are not in the appropriate way for Deaf-blind children traveling.

There are also different potholes have left uncover that are really problem for Deaf-blind children traveling. The major problems that might be faced by Deaf-blind children in their day to day life are the impediments posed by poles and potholes. The electric pole that stands at the pedestrian pavement might be crashed them as they are reported every time.

When asked about how she experiences the obstacles that she faces on daily basis around ENADB and the Metropolitan city A.A environment, Kasich described her current experience as follows:

For example, inside the ENADB environment, there has no available space from office to class. It is a narrow space that is obstacle for mobility of me.

The up and down Stairs of the old building are broken. The stairs are not suitable for cane independent travel. I have been missed the steps while using cane travel techniques. I have lost my cane because of the broken stairs. Later on, I have tried to navigate using my fingers and I have got my cane. At this time, I have understood that the stairs are broken and are not suitable for independent cane travel. The stairs should be repair.

When asked about how she defines the obstacles that she face on daily basis outside of school environment, she has said as:

In the beginning, the problem I face most on the walk outside of the ENADB environment is crashing against pedestrians. My cane was broken several times because of this. Sometimes I jokingly said,” Do we have to change side places, who is not sighted here you or me?” I always draw the map of the road in my mind. If individuals tell me that there is a pothole nearby, I carefully avoid it. If I do not know the nature of the street, I ask persons to tell me where the potholes are and then I Study the places carefully using my cane, this is my Strategy. Some individuals say “may God give you” when I ask them to help me cross the Street.

Some want to give me coins but what I want them to do is just to help me cross the street. So, I tell them that I only want them to help me cross the street.

Around In front of “Kidestemariam” church, there are different traffic light poles on the Pedestrians Zebra pavement. Once I was travelling with my friend to church gate for pray, we both are not sighted and hard of hearing. We asked people to help us cross the street but they ignored us. So, we decided to cross by ourselves. What we did not know was that there are different traffic light poles in front of us. So, we have felt and hit our front bodies. It was very painful. Oh! How difficult that day was!

Kassech has started to travel by the help of the two sighted peers. She has said that the two sighted peers have told her about the situation of the Street and the pavement. This way of informing to the Deaf-blind persons is very important.

There are a lot of obstacles that made communication and mobility of the female deaf-blind persons to be challenge while they are traveling independently. According to said of her, cars are parking on the pavement, donkeys that have travel on pavement, the Street is narrow and many cars are moving now and then, the electric pole standing at the center of the pavement, different potholes, the pavement is not on the flat level. These all are the obstacles that are found around Kassech village.

On the other side in the school, Kassech is also dependent on her peers. She is not in use of tactile communication, Cane travel techniques, protective techniques and Trailing techniques. These techniques are very important Skill while traveling independently.

The researcher also asked how she experiences the ENADB and the Metropolitan city Addis Ababa community support for her communication and mobility; the student said her experience as:

The school’s guards also have helped me to guide to class while I am coming late. My teachers are really good in class while teaching. They have given me time

while they are teaching in class. But one thing is missing in them that they are not aware of communication, mobility and orientation. They have considered I as with full knowledge of mobility and orientation. This is wrong. Generally, When I have being late in class, they have considered my problem while traveling. My teachers have also sat me in front of the class to follow up the lesson.

Her class mate Students have also helped her to travel to different areas. Some sighted peers are encouraging her. When the classmate students have found her at outside the school environment, without training they have tried to pull her to enter to the School. She has accepted this because she has no another chance for her mobility. However on the other hand most of the city community have no awareness about deaf-blind and they did not assist us in the communication and traveling obstacles due to lack of awareness and the absence of clear enabling policyframe works that address the rights and equal opportunities of Deaf-blind persons.

Case 5: - Lukas

Lukas is a boy whose age is 37. He has lost his hearing ability at the age of 6. The cause is Trachoma. His vision comes to decrease and reaches to low vision at age 26 .The cause is unknown.

He is now educated and his level of education is college (earned diploma). He is the second boy for his parents. They lived at kebele small house aroundMarcato near to sebategna. His parents were tried medical, spiritual and traditional treatments to cure their child. After realizing his disability, the child's parent efforts were to teach him in the regular class. Lukas has remembered about his mother ability about:

My mother also advocated for me to be able to attend my Physical Education classes in the school-and actually be involved. So many times, persons with vision and hearing problems are made to remain on the sidelines of the common station.

When asked about how he experience communication and mobility of the surrounding environment of ENADB and Metropolitan city Addis Ababa, he expressed as follows: currently he used for hiscommunication his family members and his best intimatefriend who is sighted and experience in sign language around his village to move from place to place. For my communication accesses my association and the Metropolitan city Addis Ababa administration stakeholders give nothing. Most of the timeLukas tried to travel alone but he said phobia is coming. He has not got chance to train tactile communication and mobility. Mobility to toilet, traveling to different area of the Metropolitan city Addis Ababa, walking topublic library to get some books that are written by Braille, all in these activities he was depend on his sighted friend.

When asked about how he experience mobility outside of the surrounding environment, he said that he sometimes guided by his mother. Most of the time he was assisted for his traveling by sighted guide of his friend. As he said, he takes a level of comfort, self-confidence, and understanding for him to get out there with his friends who have white canes. He has stick and he used that at familiar area if he understands it. Sometimes as he said that everything takes longer when he walks, when he goes target place it takes longer. To get to churches and library, he said that, he takes longer time.

The researcher also asked how he orients to get his surrounding environment; he said his impression as follows:

My mother has told me many times to understand and aware of the main sounds around me by using hearing aid. So, I can understand the main sound sources but not those masked sounds by their tone of power to my ear. This information helped me to made decision to understand and to move or to ask for help by surrounding people. Therefore, I used my ear to listen and understand what is going on around me. This information helped me to travel independently if I know the area very well. This is yes because; orientation for me is not as such simple task. I need collaboration of all the rest my sense organs to orient from my home to the school.

Meanwhile, the researcher also asked how he orients to get at his nearby areas; he also started to think about the situation as:

I was experienced difficulties with visually guided friend. So, he was walked later than me. Once he was walking, he tripped over curbs, walked off stairs as though they were flat, hung on for dear life in crowded environments, I had a difficult time orienting him how to guide the Deaf-blind friend in space, and he has often confused for me.

The path way of the mini ways of street is not appropriate for me. So, to move to different offices and nearby areas, I need landmarks with appropriate curb indicators to the different buildings and specific classes. Therefore, I always face difficulty to form mind map of the Surrounding environment in order to display independence mobility.

When asked about how he defines the obstacles that he faces on daily basis of ENADB and his surrounding environment of Metropolitan city Addis Ababa, Lukas put his feeling as:

In the meantime, the up and down of the mini ways are broken. The stairs are not suitable for cane independent travel. I have been missed the steps while using cane travel techniques. I have lost my cane because of the broken mini ways. Later on, I have tried to navigate using my fingers and I have got my cane. At this time, I have understood that the stairs are broken and are not suitable for independent cane travel. The stairs should be repair.

For instance, the mini ways around my environment, there was no available pavement. It is a full of some parked cars and small business that are obstacle for mobility.

I always draw the map of the road in my mind. If individuals tell me that there is a pothole nearby, I carefully avoid it. If I do not know the nature of the street, I ask

persons to tell me where the potholes are and then I Study the places carefully using my Cane, this is my Strategy. Some individuals say “may God give you” when I ask them to help me cross the Street. Some want to give me coins but what I want them to do is just to help me cross the street. So, I tell them that I only want them to help me cross the street. The problem I face most on the walk side the school environment is crashing against pedestrians. My Cane was broken several times because of this. Sometimes I jokingly said,” Do we have to change Side places, who is not Sighted here you or me?”

When the pavement is covered by water, sighted people can design different mechanism not to get in to the water. This is challenging for me and I directly enter to the water and I have been failed with all my Braille exercise books and some old persons helped me to get to the school.

Lukas has had white cane on his hand and has used to navigate his surroundings. Hopefully he said, while crossing the street side, he showed his Cane pointing in front. So, he was tried to display to the drivers so they have stopped and have given chance to him. He has used the tip of the cane in order to get information.

The pavement has rainy water. The potholes and ditches are full of the rainy water. Passengers are moving by jumping the potholes on the pavement. The cars and their sounds are moving up and down the Street. Lukas said that he was wet and has gone to his school with all mud and the water.

The researcher also asked how he experiences the ENADB and the Metropolitan city A.A community support for his communication and mobility, he said as:

According to explanation, his families helped him how to communicate with other persons and to travel to different areas. Care givers of the ENADB are encouraging my family members. When some persons found him found the ENADB environment, they tried to pull me to enter to the ENADB compound. He

has accepted this because he has no another chance for his mobility. As especially there is no special supporting rule for Deaf-blind persons, there is a trend to treat us with rules and regulations issued for others in general. There is not any rule sent from the higher level of the government body. We are not consulted by the government body for our disability.

Case 6: - Bekelech

Bekelech is a female whose age is 28. She lost her sight ability at the age of 7 and her hard of hearing at 17. The cause is Trachoma for blind. The cause for hard of hearing was unknown. She has two brothers and one sister. Their residential area around kolfe keranio small village called woira sefer. Her parents tried medical, spiritual and traditional treatments to cure their child. After realizing her Blindness and hard of hearing the parents efforts were changed to her education. She attends her education in the regular school.

When asked about how she experience communication and mobility indoor of her (village area) surroundings environment of the metropolitan city Addis Ababa, she expressed the past and current experience as follow: her brother helps her to move from home to surrounding area on the basis of her needs. Sometimes she tried to travel alone with full of fear. She does not get mobility training. All her indoor and outdoor activities depend on her sighted families or friends but sometimes they are bored.

When asked about how she experience mobility outdoor of her surrounding environment of the Metropolitan city Addis Ababa, she replied as that sometimes her mother and her sister guides for outdoor activities. Most of the time she assisted by her sighted friends to move outside surrounding environment. She used cane for familiar area when she wants to go alone. However, to get to the target place takes longer time for her.

The researcher also asked how she orients to get her out side environment; she repaid her impression as follows:

I used my ear to listen and understand what is going on around me until age 17. This information helped me to travel independently if I know the area very well. My sister has told me many times to understand aware of the sounds around me. So, I can understand the main sound sources but not those masked sounds by their tone of power to my ear. This information helped me to made decision to understand and to move or to ask for help by surrounding people. However my hearing ability goes downstarting from at age of 17 I have got hard of hearingand my understanding of the sound sources get rid of me and moving from place to place become big challenge. Communicating with other person gets worse. Immediately I and my parents used to search different ways to breakthrough my communication challenges but nothing we found and finally my father take me to train sign language in Mekanisa School for the deaf it takes six month to know the skill. My blindness and hard of hearing isolate me from the blind and sighted society why because communicating with them is hard and it forces my parents also to search additional supporter from the government andthe community at the end, they found ENADB and I was join the association.

The researcher also asked how she orients tocommunicate with her families to do her home indoor activities; she replied as follows:

From my past experience that my families know that my attachment to every indoor activities and they orient me by touching and pointing with their hands very closely talking to do the activities. The wayhow to communicate with other person is very hard and not appropriate for me due to my deaf-blind. So, it is very difficultto communicate and move to different offices for my cases. I need care givers to communicate andlandmarks with appropriate curb indicators to the different buildings and specific offices. Therefore, I always face difficulty to communicate with other persons and to form mind map of the surrounding environments of the Metropolitan city Addis Ababa in order to communicate and move independently.

When asked about how she defines the obstacles that she faces on daily basis of the surrounding environments of the Metropolitan city Addis Ababa she explained as:

For instance, the inside part of the transport stationary environment, there has no available care givers and pavement from one station point to the other of the field. It is full obstacles to communicate and to move. Stairs, ground, up and down step these all areas made me confused when I used to went out of Addis Ababa.

When asked about how she defines the communication and mobility obstacles that she face on daily basis of the surrounding environments of the Metropolitan city Addis Ababa, she replied as:

The problem I face most on the walk side the surrounding environment is problem of communication crashing against pedestrians. My Cane was broken several times because of this.

The researcher also asked how she experiences of the Metropolitan city Administration of Addis Ababa community support for her communication and mobility, she replied as:

....Nothing has been informed to us whether that legislation has given attention especially for us Even if something in it , we saw nothing practically. There is nothing special although there is legislation which gives attention to the rights and equal opportunities of persons with deaf-blindness, it is impractically. No affirmative action is taken for us. What the city administration is doing for us is not different from the other person without disabilities. The other thing is that the top management bodies of the AddisAbaba city are reluctant and lack knowledge about us. As there is not any clear thing in the rules about what should be done for us, we do not have the courage to ask about our rights. My care giver from ENADB always assists me and guides my parents how they can help in the interaction and mobility.

4.2 Cross-case analysis

In the following table, attempt was made to show characteristics of each case under the major themes of this research. This was done after full understanding of individual cases before combining them thematically. This, according to Miles and Huberman (1994) helps the reader to deepen understanding and explanation.

Table 4: - Cross-case display

Cases	Communication and Mobility techniques and Obstacles		Orientation techniques and Obstacles		ENADB and city community support	Contributing factor
	Communication Mobility	Obstacles	Orientation	Obstacles		
Asrat	-Tactile communication, Trailing -cane travel -sighted guide -protective method travel -by foot	--have not training techniques of communication, mobility -at old up and down stairs have broken. -up and down stairs without ramps and handrails. -many things are felt at the ground. -the ways along to ENADB ground pavement not accessible. -some stairs without handrail. -unnecessary business around the ENADB office.	-hearing skill -touching skill -smelling skill	-unfamiliar things on the pavement. -uncover many potholes at near pavement -many taxi stops. -unused crashed electric poles. -street business. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of	- inform the toilet pavement. - inform the stairs with no handrail. ramps - support from care givers. -some persons are rejected us at zebra road. - the ENADB guards are inform me	-fear of walking alone. -fear of travelling up and down stairs. -lack of ENADB surrounding s environmen t information. - dissatisfaction with talking with other persons. -fear of

				informants.	to take care. -no ground rule to inform us every information.	teasing while walking after rained. -was in question
Tutu	-Tactile communication, Trailing -cane travel -sighted guide -protective method travel -by foot	--have not training techniques of communication mobility -unfamiliar things on the pavement. -uncover many potholes at near pavement -many taxi stops. -unused electric poles. -electric poles at the center of pavement. -un necessary street business, unfamiliar pothole for plants. -lack of informants.	-hearing skill -touching skill -smelling skill -	-electric poles =unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed electric poles. -unused traffic poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -street business	-inform the toilet pavement. -inform the stairs with no handrail. ramps -support from caregivers. -some persons are rejected us at zebra road. - the ENADB guards are inform me to take care. -no ground rule to inform us every	-fear of walking alone. -fear of travelling up and down stairs. -lack of ENADB surrounding s environmen t information. - dissatisfacti on with talking with other persons. -fear of teasing while walking after rained. -was in question

					informatio n.	
Aynaie m	-Tactile communicati on, Trailing -cane travel -sighted guide -protective method travel -by foot	--have not training techniques of communication, mobility -unfamiliar things on the pavement. -the old stairs without ramps and handrails uncover many potholes at near pavement -many taxi stops. -unused electric poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -un necessary street business	-hearing skill -touching skill -smelling skill -	unfamiliar things on the pavement. -uncover many potholes at near pavement -many taxi stops. -unused crashed electric poles. -unused traffic poles at zebra pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -	-inform the toilet pavement. -inform the stairs with no handrail. Ramps - support from care givers. -some persons are rejected us at zebra road. - theENAD B guards are inform me to take care. -no ground rule to inform us every informatio n.	-fear of walking alone. -fear of travelling up and down stairs. -lack of ENADB surrounding s environmen t information. - dissatisfacti on with talking with other persons. -fear of teasing while walking after rained. - was in question
Kassec h	-Tactile communicati on, Trailing -cane travel	- electric poles =unfamiliar things on the pavement. -uncover many	-hearing skill -touching skill	Unfamiliarthin gs on the pavement. -uncover	-inform the toilet pavement. -inform	-fear of walking alone. -fear of

	-sighted guide -protective method travel -by foot	potholes at pavement -many taxi stops. -un necessary street business unused crashed electric poles. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants.	-smelling skill -	many potholes at near pavement -many taxi stops. -unused crashed electric poles. -unused electric poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -street business	the stairs with no handrail. Ramps - Support from care givers. -some persons are rejected us at zebra road. - the ENADB guards are inform me to take care. -no ground rule to inform us every information.	travelling up and down stairs. -lack of ENADB surrounding s environmen t information. - dissatisfaction with talking with other persons. -fear of teasing while walking after rained.
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Lukas	-Tactile communication, Trailing -cane travel -sighted guide -protective method travel -by foot	-unfamiliar things on the pavement. -uncover many potholes at near pavement -many taxi stops. -unused crashed electric poles. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. - street business		-electric poles =unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed electric poles. -unused electric poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants.	-inform the toilet pavement. -inform the stairs with no handrail. - Support from care givers. -some persons are rejected us at zebra road. - The ENADB guards are inform me to take care. -no ground rule to inform us every information.	-fear of walking alone. -fear of travelling up and down stairs. -lack of ENADB surrounding s environment information. - dissatisfaction with talking with other persons. -fear of teasing while walking after rained.
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Bekelech	-Tactile communication, Trailing -cane travel -sighted guide -protective method travel -by foot	-eclectic poles at the center of pavements -street business -lack of informants -unfamiliar pavement ways -crashed electric poles, stairs without ramps and handrails	-hearing skill -touching skill -smelling skill -hearing skill -touching skill -smelling skill -	-street business -electric poles =unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed traffic poles. -unused electric poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants.	-inform the toilet pavement. -inform the stairs with no handrail. - Ramps -Support from care givers. -some persons are rejected us at zebra road. - The ENADB guards are inform me to take care. -no ground rule to inform us every information.	-fear of walking alone. -fear of travelling up and down stairs. -lack of ENADB surrounding s environment information. - dissatisfaction with talking with other persons. -fear of teasing while walking after rained. - was in question
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The below, in summary, shows the overall communication techniques and obstacles condition, mobility techniques and obstacle conditions, orientation techniques and obstacles, the ENADB and Metropolitan city A.A community support for Deaf-blind persons Communication and Mobility and factors that contribute for the current lived experience of orientation and mobility skill of the six cases. An attempt was made to demonstrate the major findings in each theme, which helps the reader to have the overall individual picture of the cases presented and to see the similarities and differences across cases.

The communication and mobility techniques and Obstacles

The communication of Deaf-blind persons done by different ways: By touching, pointing, very close distant talking and tactile. Mobility of Deaf-blind persons done by different techniques. All persons used to travel by foot, cane, sighted guided and traditional way of trailing. The researcher can say from the cases above that all the Deaf-blind persons communicate with other person by touching, closest distant and tactile that is nice because of narrowing the conversation gap. On the case of tactile means of conversation, all the deaf-blind people's ways of communication is not on the right manner. They did not get chance for tactile method of communication. The hearing persons used the traditional way of communication. The tactile method of communication technique is not implemented by the hearing persons and the deaf-blind persons. Regarding on mobility the way of traveling using cane, all the deaf-blind people's ways of handling cane is not on the proper manner. They are not getting training the cane traveling techniques. The deaf-blind persons are not on the right position of cane handling technique. For example, there are two main grip of cane have been seen from the experience of deaf-blind persons. These are the standard palm up grip and the pencil grip. Both grip techniques are used the styles of the cane how to hold to travel at wide pavement and narrow pavement. The way of grip the cane at the wide pavement is the standard palm up grip and at the narrow place and crowded place have also be the pencil grip. However, all of the deaf-blind persons used the cane grip technique is neither the standard palm up grip nor the

pencil grip. When the researcher has analysis the six cases, the sighted guide technique is not implemented by the sighted persons and by the Deaf-blind persons. They are using the traditional way of pulling. But three of them have developed the skill of travel by protective methods. However, regarding the obstacle for their mobility all of them have said that pothole, unfamiliar things on the pavement, the crashed traffic jam pole, electric pole at the center of pavement, watery ground, parking of cars at the pavement, the impediments, the ditches, lack of information regarding the environment and lack of training mobility and orientation skill. These issues, the lived experience have retarded their traveling.

The orientation techniques and Obstacles

The lived experiences of orientation of the Deaf-blind persons were taken by their ability of hearing Skill, touching skill and smelling skills. These are what the Deaf-blind persons explained in the all cases. On the contrary, their orientation ability have had made difficult due to obstacles that have made hurdle to their understanding due to the existence to have pothole at the center of pavement, many taxi stops at the pavement, the broken traffic jams, Tele or electric pole, when the nature of the pavement has changing, the nature of the compound of the broken mini ways, and lack of handrails on the main ways have made them confusion at day to day activities.

The ENADB and Metropolitan city A.A community support techniques and Obstacles

Regarding, the ENADB and the Metropolitan city community support techniques that to be used by the Deaf-blind person's communication and mobility, all the respondents have said that some of the main ways do not have handrails for the hint of clues for that matter Some persons used their own ways of communication by touching, pointing and guided us to support by leading the pavement leads to our target place, but other persons rejected at the zebra pavements due to hurry conditions of the pedestrians and the speed of the cars.

The guards of the association and the care givers guided and also have supported them by giving information. Three Deaf-blind persons have also said that the ENADB and Metropolitan city Addis Ababa administrations community have not hand ground rule to inform them for every information issues that is important for their communication, orientation and mobility of the lived experience of the surrounding environmental development. All the persons have considered that Deaf-blind person's education is not at proper manner, the ENADB and the Metropolitan city Addis Ababa. Lacks a clear and enabling policy or legislation to ensure the rights and equal opportunities of Deaf-blind persons. On the basis of their needs from the concerned bodies all of the Deaf-blind persons said that their communication, mobility and orientation techniques are not planned to implement by the ENADB as well as the Metropolitan city Addis Ababa administration community.

The Contributing factor

The communication, mobility and orientation bonding techniques at the developmental stages were also interrupted due to obstacles. This, as a result, contributed to fear of approaching to communicate and walking to their surrounding environment, fear of traveling down and up miniways stairs, sometimes dissatisfaction with talking with their peers, fear of noising and teasing while walking after rained. In addition, care giver was not enough knowledge of their communication, mobility and orientation obstacles of their Deaf-blind persons so that they have lost their hope on their care givers. Therefore, the Deaf-blind persons have developed hopelessness during communicating with others and traveling from their home to their surroundings. All the Deaf-blind persons have also said that they feel fear to everything to they have met during their communication and mobility. All the Deaf-blind persons have said that they have lost their attention during taking and giving knowledge because they have thought about the bad lived experience at the different corners of the Metropolitan city Addis Ababa pavement.

Generally, all the findings reveals that most of the features related to communication, mobility and orientation skill obstacles of the Deaf-blind persons were found in common

like that, hopelessness, dissatisfaction, fear feeling, and was in question. In addition, the contributing reported factor to such behavior was similar.

4.3 Focus Group Discussion (FGD)

Table- five: Background of Care givers who were in the focus group discussion

Name	Sex	Age	Educational status	Subject of teaching	Care giving experience of Deaf-blind persons	Knowledge of communication, O and M skill	Vision,Hearing condition
1. B.W	F	34	Diploma	English	3 years	No	Sighted,hearing
2. L.B	M	36	Degree	Amharic	4 years	Have from experience	Sighted,hearing
3. M.X	F	28	Diploma	Amharic	2 years	No	Sighted,hearing
4. D.E	M	38	Diploma	Civics	4 years	No	Sighted,hearing

Regarding the types of services that have been provided so far, one care giver (B.W) responded as nothing has been provided different from the other persons. And the other care giver said that I have no enough knowledge for skill based of type services to be provided.

Regarding their observation of communication and mobility in their surrounding environment of ENADB and the Metropolitan city A.A all the care givers said that communication and mobility is different from hearing persons to Deaf-blind persons. Some Deaf-blind persons have sighted families or peer so have no problem to move from place to place. However, some Deaf-blind persons are being sitting in one place

constantly. Most probably they are totally deaf blind. The other care giver (D.E) said Some Deaf-blind persons also use a stick to move from place to place.

The care givers all have agreed on the problem of communication and orientation for the surrounding environment of ENADB and the Metropolitan city of Addis Ababa. Some (M.X and L.B) said because of lack of vision and hearing, other teachers (B.W) have opposed to the idea of lack of vision and hearing but lack of training of their need. But, all the caregivers so far have observed that Deaf-blind persons have used persons with partial vision for their-mobility from place to place. The Deaf-blind persons have used the partial vision persons to go to nearby places for instance toilet.

When asked about the type of support provision the stake holders on communication and mobility in the surrounding environment of ENADB and the Metropolitan city Addis Ababa, two care givers said that the Deaf-blind persons have not got training on communication and mobility from ENADB and the Metropolitan city Addis Ababa administration. This time the support might be differing. As the two teachers (B.W and M.X) said they guide the Deaf-blind persons how to communicate one another and other hearing persons and to move to the surrounding environment. When the Deaf-blind children have met outside environment they are guided to get to the target place of their surrounding environment school. One care giver (L.B) also added that she tries to advice the sighted parents for their traveling the surrounding environment of ENADB and Metropolitan city. One teacher (D.E) also said that the Deaf-blind persons have gotten white cane and their sighted families also have gotten some sort of training on communication and mobility skills by contacting the association manager with NGO's.

All the ENADB care givers have observed that the Deaf-blind persons sighted guides have not gotten the real communication and mobility trainings. So, the Deaf-blind persons are not fully participated with sighted and also they have no attachment with the sighted persons, they prepare isolation. In general, they have the problem of social interaction, communication and mobility problem this can adversely affect their independence living.

All The care givers said to address such problems, training should prepared to address their needs. The care givers have also said that the stakeholders need to understand their needs, or simply to say awareness raising programs for the Metropolitan city communities must important. The one teacher (B.W) also adds that the focus has to be need to thesighted community members of ENADB and the Metropolitan city to participate in the awareness raising program also important. The other two teachers have also said that the arrangements of infrastructure and street of the surrounding environment from the street have to address to the needs of Deaf-blind persons. Without the collaboration of all, individual activities cannot change the problems.

All the care givers have agreed to explain regarding the current community awareness and the support mechanism on the Deaf-blind communication method and physical environment of the ENADB and the metropolitan city Addis Ababa. They have reported that most of the Metropolitan city Addis Ababa has no knowledge on the supporting mechanism of Deaf-blind communication. On the other hand that about the physical environment of the surrounding environment of ENADB and the Metropolitan city to say that it is not accessible to Deaf-blind persons traveling. The mini ways ground is not free of different barriers, the sideways of the mini ways are somewhat broken not only for Deaf-blind persons but also for sighted persons. It should be repaired or rebuild.

All the ENADB care givers agreed up on the way that, the Deaf-blind persons have used their remaining sense organs for their communication and Orientation to do by the sense of residual hearing, touching, smell at their surrounding environment of the ENADB and Metropolitan city Addis Ababa.

In the focus group discussion all the care givers are agreed up on theENADB and Metropolitan city A.A community must need to support deaf-blind persons on their communication and movement surrounding environment need improvements according the needs of Deaf-blind individuals' development. The roadway, the Street, the pavement and the Zebra crossing Street have no accessible situation for Deaf-blind

persons. The parking area of taxi and also cars are not in the appropriate way for Deaf-blind persons traveling.

- Finally, the focus group all care givers have suggested the following changes and improvements to be seen in the future:
 - o The communication and Orientation for Deaf-blind persons needs awareness to the stakeholders
- Volunteers of sighted guide for Deaf-blind persons should take consideration by the ENADB and the Metropolitan city administration managements.
- The stakeholders of the Metropolitan city A.A administration need training on communication and mobility of Deaf-blind persons.
- Arrangements in the streets such as Curbs, landmarks to help Deaf-blind persons are very important to use the foot way and cross the road.
- Paths for animals, people and cars should be differentiated.
- Potholes and ditches should be covered and accessible for Deaf-blind persons mobility in the foot way.
- Provision of traffic information to Deaf-blind persons is very important that is Safe to cross the Street.
- The mini ways should be wide enough to allow mobility of Deaf-blind students.

All offices that are delivering different services should have equipped accommodate the needs of Deaf-blind persons.

- Special toilets should be prepared for Deaf-blind persons.
- The ENADB and the Metropolitan city administration should have prepared Deaf-blind persons to get training and Skill of distance judgment and time by concerned bodies and also facilitate the program.
- Deaf-blind persons to get training of systematic search patterns to objects as well as to their familiar environments.

- The ENADB and Concerned body should prepare the protection techniques at familiar and unfamiliar environments for Deaf-blind persons.
- The practicing of seating in different Situations and using of public transportation system to Deaf-blind persons should be considered by the concerned bodies.

Cross-analysis of each care giver on FGD.

In the following table, attempt was made to show discussion result of each care givers under the major themes of this research. This was done after full understanding of individual care givers before combining them thematically. This, according to Miles and Huberman (1994) helps the reader to deepen understanding and explanation.

Table-six. Cross-analysis of each care givers result of FGD

Caregivers	Communication,mobility techniques andObstacles		Orientation techniques andObstacles		ENADB,A.A communitysupportmechanismby
	Comm.,mobility By	Obstacles By	Orientation By	Obstacles By	
1.B.W	-Tactile communication, cane travel -sighted guide - Trailing -by foot	--have not training techniques of communication and mobility - electric poles -unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed electric poles. -unused polesat	-hearing skill -touching skill -smelling skill -	-unfamiliar things on the pavement. -uncover many potholes at near pavement -many taxi stops. -unused crashed poles. -unused polesat pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants.	- inform the toilet pavement. - inform the stairs with no handrail. - Support from care givers. -some persons are rejected us at zebra road. - the ENADB guards are inform me to take care. -no ground rule to inform us every information

		pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -at old seba dereja stairs up and down stairs are broken. -at up and down stairs there is no ramp and handrail. -many things are felt at the ground. -the ENADB outside ways pavement not accessible. -unnecessary mini ways business			
2L.B.	-Tactile communication, cane travel -sighted guide - Trailing -by foot	- electric poles -unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed electric poles. -unused polesat pavement. -electric poles at the center of pavement.	-hearing skill -touching skill -smelling skill -	-uncover many potholes at near pavement -many taxi stops. -unused crashed poles. -unused polesat pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -have not training	- inform the toilet pavement. - inform the stairs with no handrail. - Support from care giver. -some persons are rejected us at zebra road. - The ENADB guards are informing me to take care. -no ground rule to inform us every information

		-unfamiliar pothole for plants. -lack of informants. -have not training techniques of communication, mobility		method of orientation	
3M.X	-Tactile communication, cane travel -sighted guide - Trailing -by foot	--have not training techniques of com./mobility - electric poles -unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed poles. -unused traffic poles at zebra pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants.	-hearing skill -touching skill -smelling skill -	-at old building up and down stairs have broken. -at up and down stairs there is no handrail, ramps -many things are felt at the ground. -the ENADB surrounding ground pavement not accessible. - Some stairs without handrail. -unnecessary stonespublictoilets, alcoholbusiness.	- inform the toilet pavement. - inform the stairs with no handrail. - support from teachers. -some students are rejected us at zebra road. - The school guards are inform me to take care. -no ground rule to inform us every information
4D.E.	-cane travel -sighted guide - Trailing -by foot	--have not training techniques of communication, mobility - electric poles	-hearing skill -touching skill -smelling skill -	-unfamiliar things on the pavement. -uncover many potholes at near pavement -many taxi stops,	- inform the toilet pavement. - inform the stairs with no handrail. - Support from teachers. -some students are rejected us at zebra road. - the school guards are inform me to take care. -no ground rule to inform us every information

		-unfamiliar things on the pavement. -uncover many potholes at pavement -many taxi stops. -unused crashed poles. -unused poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants.		street business. -unused crashed poles. -unused poles at pavement. -electric poles at the center of pavement. -unfamiliar pothole for plants. -lack of informants. -have not training method of orientation	
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Based on the above table 4, teachers of the focus group discussion cross-analysis, in summary, show the overall communication, mobility techniques and obstacle situation, orientation techniques and obstacles, ENADB and the Metropolitan city administration community support for Deaf-blindpersons Mobility and factors that contribute for the current lived experience of orientation and mobility skill of the six cases discussed by the care giver. An attempt was made to demonstrate the major findings in each theme, which helps the reader to have the overall individual picture of the discussion presented and to see the similarities and differences across discussants’.

Theme one: the communication and mobility techniques and Obstacles

The lived experiences of Deaf-blind persons ‘communication, mobility techniques and obstacles for their traveling have been from the summarized table above. All persons have used to communicate by touching and traditional tactile method this shows that all of them did not get the right ways of communicating techniques. on the other hand

mobility purpose they travel by foot, cane, sighted guided and traditional way of trailing. Regarding the way of traveling using cane as it can be seen from the above table, All the Deaf-blind persons' ways of handling cane is not on the proper manner. The table revealed that they are not getting training the cane traveling techniques. The Deaf-blind persons are not in the position of cane handling technique. For example, there are two main grip of cane have been seen from the experience of Deaf-blind persons. These are the standard palm up grip and the pencil grip. Both grip techniques are used the styles of the cane how to hold to travel at wide pavement and narrow pavement. The way of grip the cane at the wide pavement is the standard palm up grip and at the narrow place and crowded place have also be the pencil grip. However, all of the Deaf-blind students are use the cane grip technique is neither the standard palm up grip nor the pencil grip. When the researcher has analysis the focus group discussion, the sighted guide technique is not implemented by the sighted person and by the Deaf-blind persons. The Deaf-blind persons are guiding by the traditional way of pulling. On the other side, regarding the obstacles for Deaf-blind persons mobility, all of the care givers have said that pothole, unfamiliar things on the pavement, the crashed traffic jam pole, electric pole at the center of pavement, watery ground, parking of cars at the pavement, the impediments, the ditches, lack of information regarding the environment and lack of training mobility and orientation skill. These issues, the lived experience have hurtled their traveling.

Theme two: the orientation techniques and Obstacles

The lived experiences that are having the ability of hearing Skill, touching skill and smelling skills are used by Deaf-blind with hard of hearing persons for their techniques of orientation. These are what the focus group care givers have explained in their discussion. On the contrary, orientation ability of Deaf-blind persons have had made difficult due to obstacles that have made hurdle to their understanding due to the existence to have pothole at the center of pavement, many taxi stops at the pavement, the broken traffic jams, different types of poles, when the nature of the pavement has changing, the surrounding environment of the Metropolitan city mini ways broken, , and

lack of handrails on some main ways have made Deaf-blind persons confused at day to day activities.

Theme three: ENADB and Metropolitan city A.A community support techniques and Obstacles

Regarding, the ENADB and Metropolitan city administration community support techniques that to be used by the Deaf-blind person's communication and mobility, all the respondents of care givers said that some Deaf-blind persons have informed by the care givers about the mini ways are broken and stairs without handrails. Some sighted person on the ways guided them to the ENADB. Some care givers of the ENADB and some persons of the Metropolitan city Addis Ababa community also supported them by giving information. Some sighted peers also informed them about the pavement that leads to the toilet. But, the care giver heard from the Deaf-blind persons that some sighted peers had rejected them at the Zebra pavement due to hurry. The care giver also said about the Metropolitan city administration community contribution for the Deaf-blind person's communication, mobility and orientation skill that the Metropolitan city administration has not had ground rule to inform them that is important for their communication and environmental knowledge development. So, the ENADB and the Metropolitan city administration community support is not based on planned and targeted direction for the personality development of Deaf-blind persons.

Theme four: the Contributing factor

The Deaf-blind person's communication and perception of their environment and mobility were also interrupted due to obstacles. This, as a result, contributed to the factors that as fear interaction to other persons, walking to their nearby places, fear of traveling down and up stairs within their surrounding environment, sometimes dissatisfaction with talking with their parents and peers, fear of noising and teasing while walking after rained. It is also true that their care givers were not aware of their communication,

mobility and orientation obstacles. Therefore, the Deaf-blind persons have developed hopelessness during traveling from their home to target places and back to their home. All the care givers have also said that the Deaf-blind persons have feel fear to everything. So, the Deaf-blind persons have waited for help to be guide by standing at the street. Generally, it was found out that most of the features related tocommunication, mobility and orientation skill obstacles of the Deaf-blind persons were found in common like that, isolation, hopelessness, dissatisfaction, fear feeling, and was in question. In addition, the contributing reported factor to such behavior was similar

4.4 Observation methods and pictorial representation

Result findings and Summary

The aim of this study was to explore the lived experiences of communication, orientation and mobility skill of Deaf-blind persons. In order to understand the complexity of the issue under investigation, qualitative case study approach was employed. Accordingly, participants were purposely selected which included six Deaf-blind persons. Whereas, the other group of their respective fourcare givers participated in the focus group discussion (FGD) have been reviewed. In addition to that, the researcher's keen observation report and the pictorial representation of what the Deaf-blind persons expressive-said have been taken by photograph as possible to display the lived experiences have also been reviewed.

As a result, the following have been identified as **major findings**:

- Deaf-blind persons have been used some experiences of the communication, orientation and mobility skill methods informally. However, there is also a need of awareness raising program to fill their gap.
- There is a traditional, lived experience, way of using communication techniques and white cane for orientation and mobility. But, there is a need to be starting the appropriate skill exercise.

- There is a need to be start appropriate way of tactile communication and sighted guide experience rather than traditional way of pointing, touching and pulling.
- All the Deaf-blind persons have agreed to be start the unfamiliar environments to be familiar environment which encouraging the communication and mobility.
- Some Deaf-blind persons who took informal communication and mobility training exposure have more mobility lived experience than those who were beginners.
- There is a need that stakeholders at Metropolitan city administration level have to participate at the communication, orientation and mobility skill training in order to Support Deaf-blind person's communication and mobility.
- There is a need that peer group and parents of the Deaf-blind persons to have to train tactile communication and sighted guide technique in order to support Deaf-blind person's communication and mobility.
- There is a need that Deaf-blind persons themselves have needed to get training ofcommunication, orientation and mobility Skill within the ENADB environment to develop their experience.
- There is the lived experience cop up delay on Deaf-blind personsis due to lack of support on their communication and mobility.
- There is a need that the concerned body should to remove the barriers that are found at the street that leading to the ENADB from their surrounding home environment of the Metropolitan city Addis Ababa.
- There is a need to get orientation or understanding as ground rule to be used of the ENADB environment and other areas that are not as simple as sighted persons.
- There is a need to get tactile and trailing techniques to be exercising day to day activities in ENADB and at home.
- There is a need that pavement streets should be accessible for cane independent traveling,
- There is a need to get communication accesses and mobility devices to all Deaf-blind persons.

- There is a need to rebuild the old seba dereja stair by the concerned body.
- The pothole, the unnecessary street business, broken mini ways, the inaccessible pavement, the electric poles are the major obstacles that hurdle understanding and traveling of Deaf-blind persons outside of the ENADB surrounding environment of the Metropolitan city A.A.

Discussion

The three dominant themes that frame discussion in the current section are Major Communication techniques and obstacles experience of Deaf-blind persons, Mobility techniques and obstacles experience of Deaf-blind persons, Orientation techniques and obstacles experience of Deaf-blind persons, and ENADB and Metropolitan city communities support for Communication and Mobility of Deaf-blind persons.

Theme 1: Major Communication and Mobility techniques and obstacles experience of Deaf-blind persons.

All number of study participants reported a lack of appropriate communication, mobility and orientation skill and ENADB and metropolitan city Addis Ababa administration support programs to help with communicating and traveling techniques with ENADB persons, especially Deaf-blind persons who are coming from regions. Most negative responses about existing study revealed due to the lack of training of communication, mobility and orientation skill and inaccessible of the ENADB and Metropolitan city A.A surrounding environment as well as the inaccessible of surrounding environment directly correlates with the theoretical framework of social capital by the rational for having communication and mobility skills experience from the fact that Deaf-blind persons cannot travel by themselves as independently as their sighted peers. Communication as well as Mobility experience and training, therefore could offer them the opportunities to communicate and travel in familiar and possibly in unfamiliar environment and explore it. The more they exposed to communicate and travel with outside environment the more they are able to gain new experiences or

strengthen what they have already. They can go to surrounding environment without much difficulty, visit their friends and become more involved in family, community and Social activities. Safe and independent communication and movement improves self concepts, fosters self confidence and rewards one with better social acceptance (Schinazi, 2008). A distinct lack of knowledge about existing communication and mobility techniques and stakeholders support programs to help with Deaf-blind persons was evident in participant interview response.

Independent communication and mobility facilitates full participation in formal education programs. In many situations, communication and mobility is essential for academic performance; and almost everyone finds it necessary to be able to get to read, to perform activities to reach to different service areas within the surrounding environment. The ability to communicate and travel is essential for meeting social needs and obligations. The inability to communicate and travel in the community limits a person's access to services and resources. In a more basic way, no access to communication and immobility itself can contribute to the onset of certain health problems or to the deterioration of various.

As a unique community of Deaf-blind persons, study participants consistently reported common experiences with the communication and mobility obstacles of Deaf-blind persons. The near mirror image of input gained from study participants regarding how their daily living environment obstacles tackle the communication and mobility of Deaf-blind persons also supports (Jacobson, 1993). So, Communication and Mobility Skills area will include major components like tactile techniques, Trailing techniques, cane skill techniques and sighted guide techniques.

Formalized instruction in independent communication with others and travel began first, and has been developed more extensively, for Deaf-blind people than for any other disability group. Efforts to provide communication, orientation and mobility services to Deaf-blind persons come from the necessity of meeting their real needs in particular

situations. Absences of appropriate communication and mobility of the Deaf-blind persons have affected the school age Deaf-blind children's orientation.

Integrating Deaf-blind children into normal educational programs as much as possible will not lead to the desired benefits for such children or for society unless appropriate educational programs are available with the necessary supports. Children must be able to get to neighborhood schools each day, and, when there, they must be able to get from class to class. Without some type of communication and mobility support, thinking to educate Deaf-blind persons within the same system as sighted children is neglecting their enabling natural and legal rights.

According to Long (1990) said on his book that communication, orientation and mobility is among the most important of human abilities. However, limitations in these abilities can impair social, vocational and personal adjustment to Deaf-blind persons.

This study has found important notification under this major theme regarding independent, safe and effective communication and mobility of Deaf-blind persons have in problem due to environmental obstacles within the living surrounding environments.

All the participants of this study have revealed that the obstacles of communication and mobility of the surrounding environment have needed to be free. The collaboration of parents, the government and other concerned bodies input very important in order to enhance the safe, effective and independent communication and mobility of the Deaf-blind persons. Zeyede has discussed this idea in the unpublished thesis that the physical environment in must be designed with the needs of students with disability in general and Deaf-blind students in particular in mind and the degree of adaptations required. Such adaptations must serve various functions, meeting basic physical needs, access to communication, mobility, toileting, facilitating access to short term trainings, and furthering pupils' social assimilation. (Zeyede, 2009).

As it is observed from the figure 7, that the surrounding area mini ways along to ENADB office, has the unnecessary street business that might be tackle the free interaction to communication and trailing skill of Deaf-blind persons. The data obtained from the focus group discussion of care givers and Deaf-blind persons have seen similar that is the surrounding environment of ENADB is inaccessible to communication and trailing mobility.

Tactile approach and trailing is an important skill that helps Deaf-blind persons to stay oriented about their environment. All the participants have said little knowledge about it. On the contrary, Jacobson (1993) referred tactile and trailing as a good example to show the connection between communication, orientation and efficient mobility within the environment of their surroundings. It also consider as a communicative and protective technique. It is easy to use and it is often used Deaf-blind persons in moving from one nearby place to another.

It is not surprising that said by Deaf-blind persons used white canes for findings their way and move within their surrounding environment. However, if there are no Braille buttons in all buildings they find it difficult to identify floor numbers and offices they want to go to. The researcher has also observed the information giving board and the office direction pointing clues of the ENADB with out of Braille buttons. The focus group care givers have also discussed that the ENADB office information giving board as well as the office pointing clues have not Braille buttons at. The lack of Braille buttons in the necessary area force the Deaf-blind persons to be dependent on others. If sighted people are not around, they find it difficult to reach the different offices and get the services they want in a timely manner.

Moreover, for the communication and mobility skill of Deaf-blind individual, the environment must be accessible through some sort of accommodation within it. For example, the environment must be flat, even and level. This means, roads should be plant, flat, straight, horizontal, properly bordered with barricade, free from electric poles and other standing materials and son on (Alenew, 2011).

In the focus group discussion, all the care giver, the Deaf-blind persons , the researcher observation and the pictorial representation have explained the same feeling that , the old, up and downstairs that leading from the main way of Piasa to Ras Mekonin bridge area through ENADB has no handrail. So, these conditions created a great challenge while Deaf-blind persons are walking down wards. Therefore, the Metropolitan



city Addis Ababa administration and ENADB management bodies have to have to take measurement upon the mini way along to ENADB old stair without ramps and handrails.

Figure .Example of the old Seba Dereja up & down stair without handrail on the way along to ENADB. This photo (Figure) has shown the old stair leading along to the mini way OF ENADB .From the starting edge up to the end stair right and left sides there is no handrail and has been seen broken. For this information has no tactile marking for Deaf-blind persons. Deaf-blind persons are at risk or in fear when they cross with this way.

By much experience of cane Skill, Deaf-blind persons seemed to reflect their Strong desire for self-independence. It appears that they had higher aspirations for self-independent movements of Deaf-blind persons than care givers experience and knowledge. Nevertheless, both informants have said the importance of cane skill travel training.

Regarding sighted guide, perhaps one possible explanation is that the Skill of sighted guide was perceived as if it increased the sense of dependency. It is true that the use of sighted guide could increase the sense of dependency and reduce the opportunity of exploring the environment independently, if used as the only mobility means. Yet, it cannot be avoided because there are a lot of things in the environment that can be best

dealt with the assistance of a sighted Companion. It would be unrealistic to assume that Deaf-blind persons can achieve a complete independence in mobility.

Though the data 'sighted guide' does comments by Some Deaf-blind persons in the study reflected that some perceived this skill as a luxury and others saw it as something that reduces the feeling of independence.

Nevertheless, all recognized the fact that, the Deaf-blind persons may require the training of a sighted guide for situations like crossing a very busy street in Cities like Metropolitan city Addis Ababa and crossing open rivers with a very fast flow in the rainy time.

The literature maintains that training in the use of the sighted guide facilitates safety travel and provides comfort for both the guided and the guide (Jacobson, 1993).

Hill (1986) identified three advantages and disadvantages of the sighted guide. The advantages were: one, when a proficient sighted guide is used, travel is very safe and efficient, two, and the guide can be a constant Source of information about the environment. And three, the sighted guide can be used to develop and reinforce such skills as kinesthetic awareness, orientation concepts, etc. The disadvantages were: one, many sighted persons are not knowledgeable as to how to guide Deaf-blind persons, two, Sighted guide travel used as the only mobility system may foster dependence rather than independence, three; some Deaf-blind persons travelers may not pay attention to environmental information and orientation while traveling with a sighted guide.

As all Deaf-blind persons who participated in the study have commented, a Deaf-blind person's life is fully occupied with tactile clues to communicate and landmarks to precede mobility ahead. Without tactile clues and landmarks Deaf-blindpersons will find a lot of trouble and obstacles to successfully plan their routes of communication and travel or determine their positions and destinations. So, the concerned bodies of the ENADB and the Metropolitan city Addis Ababa administration and ENADB management have to have arranged the training for their tactile clues communication and

Landmarks of traveling of the street pavement of the different surrounding environment of ENADB and the Metropolitan city Addis Ababa. Similarly, All the Care givers on the focus group discussion have also agreed on the advantage of tactile clues communication and landmarks and clues for cane independent travel of Deaf-blindpersons within the ENADB and the Metropolitan city Addis Ababa administration. Regarding the importance of tactile clue communication and Landmarks Clues, in addition to the above, the researcher's observation have indicated that within the ENADB and the Metropolitan city A.A administration of surrounding environments Deaf-blindpersons have passed different obstacles from the lack of appropriate landmarks and clues.

Although self protection and utilization of tactile clues communication and landmarks clues to travel could be put as mobility Skills, they were mainly seen by the Deaf-blind persons that enhancing the ability of collisions with objects. Without these skills, Deaf-blind individuals will not enable to move independently in familiar places (indoor places).

In general, the focus group participants chiefly want to see an improved ways of communication access and street environment. They want all ways of communication techniques, poles including those with protruding structures to be planted away from the pavement for pedestrians, just like streets for cars are clean. They want potholes to be covered immediately. They also want to see accessible ways of communication and transport system. They want the public to be aware of them and be cooperative and they want the mass media to play a major role in this regard. They want the municipality of the city and other governmental bodies to consider them citizens whenever they do different urban works.

If the urban community awareness and built environment was accessible, Deaf-blind persons were not forced to depend on others. In order to lead a quality life one has to interact with others and move independently of others in urban areas. Urban leaders must know the awareness level of their community on the Deaf-blind person's communication

and mobility in addition to these planners and designers must see that there are mechanisms that enable each person to move from place to place independent of others.

The cause for the lack of suitable environment as the focus groups discussants unanimously agreed is lack of awareness regarding the needs of Deaf-blind person. Some mention the lack of lobbying in this regard and the inapplicability of studies such as this one. According to the participants the government is not giving attention to this issue and the Ethiopian National Association of Deaf-blind (ENADB) is not functional.

As the data from real experience of Deaf-blind person, Care givers of focus group discussant and observation tools point out that, the Deaf-blind persons face difficulties in terms of communication, orientation and mobility skill in the lack of enabling policy and urban built environment pavement and street. The major hurdles that the Deaf-blind persons face in their day to day lives were found out to be lack of enabling policy, lack of appropriate street environment, lack of appropriate arrangements in vehicles and lack of information about their environment.

Theme 2: Orientation techniques and obstacles experience of Deaf blind persons

Directly relatable to research sub-question two, how Orientation techniques and obstacles experience of Deaf-blind persons? The Orientation techniques theme search yielded unexpected results. As a strong theme in the study, with all four participants in the FGD contribute to the thematic search results. The final study revealed that the six key participants who referenced orientation techniques have lived experience in the remaining sense organs of hearing and touching in all school age Deaf-blind person during traveling to the ENADB and the surrounding environment of Metropolitan city A.A. Discussion has been done by Long and Hill (1997) that Orientation is not only dependent upon the gathering of information through all available sensory channels (e.g., remaining vision, hearing, touch, kin-aesthetic, or olfactory) but also on an understanding of the regularities and exceptions to the regularities of built environments (i.e., environmental concepts). This information is used to develop a conceptual understanding of the environment of travel, plan routes of travel and re-establish orientation if lost.

Mobility experience and training, therefore could offer Deaf-blind persons the opportunities to get orientation of their environment to travel in familiar and possibly in unfamiliar environment and explore it. The more they travel the more they are able to gain new experiences or strengthen what they have already (Jacobson, 1993).

As may be seen from the above, olfactory sense in the travel ability of Deaf-blind Individuals help in maintaining directional orientation is as well recognized fact. To Deaf-blind children, locating shops, drugstores, garages, bakery shops by the direction of odors help in maintaining directional orientation while traveling. As Barraga (1986) reports they give orientation cues for those Deaf-blind persons moving around the home and the surrounding environment where as the odors give signals of proximity for the Deaf-blind person and adult who travel independently. Deaf-blind Individuals are able to Sense the presence of people, objects, and places by smelling.

The age of the target Deaf-blind informants in the study ranged from 17 to 37, so, the level of the awareness maturity of the in and outside of school environment have been seen increased from the response of Deaf-blind persons. This means the increase the educational level might let the opportunity to have better experience through day to day activities of communication, mobility and orientation experience.

Care givers also have liked to prepare and emphasize training by the ENADB in the use of olfactory senses in improving the communication, orientation and mobility of Deaf-blindpersons, for example, the 'Lions cage' around the ENADB of 6 kilo might give information for the Deaf-blind person's traveling distance to ENADB. Care givers seemed to feel that the use of this skill could maximize the travel information of Deaf-blind persons seek.

In comparison to care givers, however, Deaf-blind persons were more conservative in their judgment about the value of this skill. This might be perhaps because of their first hand experience about the limitation of the skill in improving communication, orientation and mobility. Except for the general information that olfactory senses provide

information about directions (orientation) and distance is little studied regarding the interaction with the travel performance of the Deaf-blind person. Nevertheless, a number of practitioner (Hill, 1986 and Barraga, 1986) suggested activities to stimulate the olfactory senses of Deaf-blind persons.

In the study, all Deaf-blind persons regard auditory Skills as the most contributing factor for their communication, orientation and mobility experiences. The auditory system is among the most frequently Cited sensory modality in providing the Deaf-blind persons with best travel-information.

Still to the other Skill, one care giver has attached greater importance similar to Deaf-blind persons experience to the “body awareness”. A number of professionals (Hill, 1986 and Horton, 1986) considered body concepts and positions as the basic concepts that Deaf-blind persons have to have required for effective mobility.

Particularly Cratty (1968) placed much emphasis on the training of body awareness of Deaf-blind person on the basis of the belief that one’s own physical body is the source from which all spatial judgments are learned.

Tooze (1981) broadens the tactual modality Concept by differentiating it into tactual and hap tic perception. For pick the passive touch is the tactual perception when an individual reports that she or he is touched i.e. feels something is touching him or her. The active touch is hap tic perception. Hap tic perceptions help in reading Braille maps, identifying objects and in maintaining directional orientation

As discussed by Barrage (1986), the auditory system begins to play a role in activating the senses of Deaf-blind person after the first year or two on wards.

Theme 3: ENADB and Metropolitan city A.A communities support for Communication and Mobility of Deaf-blind persons.

In line with school community support for Deaf-blind persons communication and mobility, all the Deaf-blind persons said that most of the care givers are 'really good' in the daily basis knowledge giving conditions while they are co-aching. The care givers have given time to Deaf-blind persons while they are co-aching in and outside the ENADB environment, however, one thing is missing in them that they have not taken the actual training of communication, mobility and orientation skill. According to the reality of Deaf-blind persons believe, their care givers' have considered them as with full knowledge of communication, mobility and orientation skill. They have said that it is wrong. Deaf-blind persons have gotten the knowledge and the skill from daily basis activities as well as from Training and their traditionally experience. Generally, if they have being late in coming ENADB training session, the care giver have considered their problems while traveling. It is also similar response have got the researcher from the care givers of focus group discussion and from what the researcher have made observation.

As people have become more aware of the ability to communicate and travel as a right of each individual which must be guaranteed and nourished by a democratic society, it has become more apparent that steps must be taken to provide whatever intervention is necessary to enable each member of society to avail himself of this right.

All care givers reported that the ENADB and the Metropolitan city Addis Ababa administration community support strategies for Deaf-blind persons' communication and mobility have not included in the plan. According to the care givers have responded, the care givers have not taken the awareness of communication, orientation and mobility. The ENADB guards, others administrative workers have not got awareness on communication, orientation and mobility. Here, it is important to note that the Deaf-blind persons reported that although their care givers, their peers, the guards of the ENADB and others stakeholders of the Metropolitan city Addis Ababa administration office workers have not taken the awareness and training of communication, orientation and mobility skill that might important issue have led to support the communication and mobility of Deaf-blind persons. The researcher has also observed that the method of

supporting the Deaf-blind persons communication and mobility have not based on the knowledge of communication, orientation and mobility skill. Similarly, some figures inside the ENADB, home and outside environment also other figures are some of the pictorial representation have displayed the inaccessibility environmental hurdle or obstacles for communication, orientation and mobility skill of Deaf-blind persons that have resulting from poor planning and commitment of the ENADB and Addis Ababa Metropolitan city community implementation.

Finally, all the respondents Deaf-blind persons and their care givers have recommend that Communication, Mobility and Orientation skill to be include in the curriculum of the country to give appropriate service to our people specifically to Deaf-blind people of Ethiopia.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

In this Section of the research report, the researcher tried to bring the whole research under taking to an end by highlighting the Conclusion and Recommendation.

1.1 Conclusions

Appropriated educational provision for Deaf-blind persons is important to make these persons support themselves and be fully functioning members of their respective societies. However, there are several factors contributing to affect their activities. Here, lack of training on communication, orientation and mobility skill that exists among the Deaf-blind person's plays an essential and most leading role for dependent on the sighted individuals across their life.

As it is revealed by the Study the participant sample Deaf-blind persons were improvised in communication and orientation Skill development due to back of early intervention and absence of exposure to the accessible environment and appropriate training.

The major problem that indicated in the findings are communication and mobility problems, which has great influence on the Deaf-blind persons day to day socially interaction and learning that has pointed to problem of training to explore space systematically and exhaustively by means of touch.

The ENADB and Metropolitan city Addis Ababa administration surrounding environments the impediments, the small size of ENADB compounds, the broken stairs, and the inaccessible nature of the surrounding environment and lack of information have decrease Deaf-blind persons' communication and mobility Skills.

The ENADB and the Metropolitan city Addis Ababa administration community support for the communication and mobility of Deaf-blind persons have not based on planed,

commitment and accountability. Therefore, Deaf-blind persons have developed poor confidence to communicate and to travel and dependent behavior on sighted individuals.

Hence, if the early environmental traditional way of communication and orientation increases, the communication and mobility of the Deaf-blind persons from place to place will increase with safely and independently style of movement.

As the ENADB and the Metropolitan A.A city administration support of the Deaf-blind person's decreases, the independent communication and mobility of the persons becomes delayed and participation within the community also decreases.

Communication, orientation and mobility have direct relationship. The increase of the communication and orientation of the lived environment of the Deaf-blind persons will result to increase the mobility of the Deaf-blind persons from place to place safely independently and effectively.

The more the obstacles of communication and mobility have on the environment will result delaying to communicate, to travel and also decrease the understanding (orientation) as well as confidence of the Deaf-blind person.

In general, the result of this study suggests that the education of communication, orientation and mobility of Deaf-blind persons in regular school is until not known it needs hard work input on the part of government, the community, parents and other professional that related to make accessible environment to support for the communication and mobility of Deaf-blind individuals.

5.2 Recommendation

Consequently, the following measures must be taken in to consideration by concerned bodies to improve these problems and factors affecting the full participation of Deaf-blind persons in academic and social areas.

- The ENADB and Metropolitan city Addis Ababa administration should make every possible facility to equip Deaf-blind persons in the inclusive society through effective training of communication, orientation and mobility skills.
- The traditional approach of tactile communicating and sighted guide technique for Deaf-blind persons should be delivering by trained tactile interpreters and the sighted peers.
- The ENADB and the Metropolitan city Addis Ababa inside and outside surrounding environment Orientation for Deaf-blind persons need to inform to form mind map
- Volunteers of tactile communication and sighted guide for Deaf-blind persons should take consideration by the ENADB and Metropolitan city Addis Ababa administration stakeholder management bodies.
- Foot paths should be free of obstacles such as unnecessary street business.
- Arrangements in the streets such as Curbs, landmarks to help Deaf-blind persons are very important to use the foot way and cross the road.
- Paths for animals, people and cars should be differentiated.
- Potholes and ditches should be covered and accessible for Deaf-blind persons mobility in the foot way.
- Provision of audible traffic signals to inform Deaf-blind persons are very important that is Safe to cross the Street.
- Classroom doors and Corridors should be wide enough to allow mobility of Deaf-blind persons.
- Different services delivery offices of the Metropolitan Addis Ababa city administration stakeholders should be located at the ground floor for Deaf-blind persons.
- Stairs should have stair-cases that a set of stairs with rails on each side that everyone can hold on to allow easy mobility of the Deaf-blind persons.
- All the ENADB offices rooms that are delivering different services should have Braille buttons to accommodate the needs of Deaf-blind persons.

- Special toilets should be prepared for Deaf-blind persons.
- The ENADB Deaf-blind persons should have to get training and Skill of distance judgment and time by concerned bodies of the Metropolitan city A.A administration and the ENADB also facilitate the program.
- Deaf-blind persons have to have get training of Systematic search patterns to objects as well as to their surrounding environment of ENADB and the Metropolitan city Addis Ababa familiar environments.
- The ENADB and Concerned body of the Metropolitan city Addis Ababa administration should prepared the protection techniques at familiar and unfamiliar environments for Deaf-blind persons.
- The practicing of seating in different Situations and using of public transportation system to Deaf-blind persons should be considered by the concerned bodies.

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APPENDIX

APPENDIX A

Interview Guide Questions for Deaf-blind persons

This guide question is designed to be administered by Deaf-blind persons. The main objective of these guide questions are to investigate the communication, orientation and mobility experiences of Deaf-blind persons in ENADB Addis Ababa.

Name.....Grade.....section.....

..

Age onset of deaf-
blindness.....

1. Background.

- 1.1. How do you describe your family situation?
- 1.2. How many members do you have in your family?
- 1.3. What about your positions among your Siblings?
- 1.4. What about your parent situation?
- 1.5. What about your onset of your Deaf-blindness on:
 - a. Prenatal (pregnancy)
 - b. Per natal (during birth)
 - c. Post natal (after birth)
 - d. Step by Step loss of Capacity to see
 - e. Accidents
- 1.6. How sever is the problem? On:
 - f. Total Deaf-blindness
 - g. Any remaining/ existing capacity to hear sounds or to see like light, shapes, hard contrast issues.
- 1.7. Where and how far you live?

- 1.8. How you have travelled from your home to the surrounding environments of ENADB and the Metropolitan city A.A and back to home?
- 1.9. If any, what kind of communication, orientation and mobility training you have got until now?
- 1.10. How your parents have and are now reacting to your Deaf-blindness and how they have supported and taught you?
- 1.11. Do you feel to be loved by your parents even though you are deaf-blind?
- 1.12. Do you feel to be loved by your friends and peers even though you are deaf-blind?
- 1.13. What kind of difficulties and problems you have faced so far in communication, orientation and travelling before you entered in to your target places?

2 Current Situation

2.1 What is your description and experiences regarding your communication, Orientation and mobility skill?

- (How you oriented by yourself? How you communicate/ move? What obstacles you have faced? How your communication/ traveling is facilitated by Some others (care giver, parents and Some outsiders etc.)?) :
- a. Traveling from home to nearby areas around the village and vice versa.
- b. Traveling on the ENADB and the Metropolitan city A.A yard.
- c. Traveling nearby the ENADB and the Metropolitan city.
- d. What kind obstacles you have faced in general and especially at the moment?
- e. How you solve the problems regarding the obstacles and thresholds you face on daily bases?

- f. What is your estimation? How the deaf-blindness affects on your process of daily knowledge earning?
- 2.2 What is the reaction and behavior of your ENADB Metropolitan city A.A city administration mates to you today, now & at the moment?
 - 2.2.1 How your peers and persons in the ENADB and the Metropolitan city A.A are reacting at the moment to your deaf-blindness?
 - 2.2.2 How your friends and persons in the ENADB and the Metropolitan city A.A are reacting at the moment to your difficulties you face in communicating and traveling (for example there might be also some teasing, bullying etc)?
 - 2.2.3 If any, what Kind of support and prompting you get in general from your peers and other persons?
 - 2.2.4 If any, what Kind of support and prompting you get for your learning from your peers and other persons?
 - 2.2.5 Do you have some peers or persons who are especially important for you in your communication, orientation and traveling? If yes, what she or he is doing in order to help and support you better, treat or alike?
 - 2.2.6 What is the reaction or behavior of your ENADB and the Metropolitan city persons to your communication, traveling and orientation now?
 - 2.2.7 How do care givers and the community of Metropolitan city are reacting or dealing at the moment to your deaf-blindness and difficulties you face in communication and traveling?
 - 2.2.8 How do care givers and the Metropolitan city A.A community are reacting or dealing at the moment to your deaf-blindness and difficulties you face in?
 - 2.2.9 How do you describe the reaction and behavior of your care giver to your communication and traveling? (For example there might be negative expressions, punishment, or very positive and polite attitudes and reactions).
 - 2.2.10 How your caregiver and the Metropolitan city A.A communities are in general managing with you in the ENADB and the surrounding environment on:
 - Placement,
 - addressing

- privileges,
- Segregation
- integration,
- Inclusive (making accessible all necessary situation) etc.

2.2.11 How you're ENADB and Metropolitan city A.A administration are supporting you in your communication, orientation and traveling?

2.2.12 How your ENADB and Metropolitan city administration are supporting you in your basic skill training situations? By:

- Special arrangements and treatment,
- special methods,
- Special equipments etc.

3. Future

3.1. What is your wish concerning removing of the obstacles such as:

a. In your communication and traveling from home to the surrounding environment?

B. Communicating and traveling the nearby and surrounding environment of ENADB and Metropolitan city A.A?

3.2. What is your wish concerning the aids regarding to your deaf-blindness would like to have?

3.3. What kind of changes in attitudes you expect from yours:

- > peers?
- > Co-persons and?
- > Care givers?

3.4. What kind of support you wish to get more from yours

- > Parents?
- > Care givers and?
- > ENADB and Metropolitan city administration?

3.5. What do you expect to have in your future in 2-3 years regarding Communication, Mobility and orientation?

APPENDIX B

Focus Group Discussion (FGD) guide questions

This guide question is designed to be administered by Focus Group Discussion. The main objective of these guide questions Are to investigate the communication, orientation and mobility Experiences of Deaf-blind persons inENADB Addis Ababa.

1. Let's discuss about the types and features of services provided by the ENADB and Metropolitan city A.A administration for Deaf-blind persons.
2. What do you think about the aim of inclusion Deaf-blind persons in the ordinary community participation?
3. How do Deaf-blind person communicate with other community members and move in surroundings environment of ENADB and Metropolitan city A.A?
4. What is the situation on communication, orientation and traveling of Deaf-blind persons in the surrounding environment of ENADB and the Metropolitan city A.A?
5. What kind of support do you give at the moment to Deaf-blind persons within the surrounding environment of the Metropolitan city A.A?
6. What kind of social, education, communication and mobility problems you have observed that Deaf-blind persons have during their daily basis knowledge earning in the ENADB and Metropolitan city administration?
7. What do you suggest to address these problems in your ENADB and Metropolitan city A.A administration? Also what are you doing today with these problems?
8. How do the ENADB and Metropolitan city community provide Communication, Orientation and Mobility support for Deaf-blindpersons?
9. Do communication and mobility problems affect their learning ability or style? How?
10. How theENADB and Metropolitan city A.A physical environment is currently accessible to Deaf-blind persons?

11. How do they establish communication and orientation regarding their ENADB and the surrounding environment of Metropolitan city A.A administration?
12. Do you observe some improvements so far that are encouraging communication and mobility of Deaf-blind persons? How?
13. Do you think the infrastructure of the ENADB and the surrounding environment of Metropolitan city A.A currently accessible for Deaf-blind persons ? How? In what way?
14. Do you think the Road-way around the ENADB and the surrounding environment of Metropolitan city A.A accessible for Deaf-blind persons?
15. Do you see any obstacle for Deaf-blind persons?
16. What do you suggest that how to enhance the successful achievement and interaction of Deaf-blind persons?
17. In the future, what should be changed in general and especially in your working ENADB setting? How?

APPENDIX C

Observation guide checklists.

These guide observation checklists are designed to be administered by the researcher in the ENADB and Metropolitan A.A city administration surrounding environment. The objective of the observation as data gathering instrument is to investigate the Experience of communication, orientation and mobility for Deaf-blind person's in the ENADB and Metropolitan city administration of A.A.

Code (name) of the person.....

Name of the observer.....

Date and time of observation.....

Place/ places of, his observation.....

No	Target of Observation	Description	Observer's notes
1	Communication and arrival to the ENADB		
	1.1 Arrival of the person to the ENADB yard		
	1.2 Communication/mobility aids used by the student		
	1.3 Communication accesses and moving from road sidewalk to the school gate entrance		
	1.4 Communication and moving techniques used by the person		
	1.5 Behavior of the sighted peers on the yard(around ENADB and Metropolitan city A.A area)		
	1.6 Obstacles that hinder communication and traveling of Deaf-blind person.		

Time range.....

Observation

sheet number.....

No	Target of Observation	Description	Observer's notes
2	Communication and traveling in ENADB		
	2.1 By Sighted guide		
	2.2 By Cane guide		
	2.3 Protective Techniques that are used by Deaf-blind persons		
	2.4 Trailing techniques		

	2.5 At sideways/corridors of building		
	2.6 At Up and Down of mini way		

Time range.....

Observation

sheet number.....

N o	Target of Observation	Descri ption	Obser ver's notes
3	Communicating with other persons on the occasion and traveling surrounding environment of Metropolitan city A.A environment 3.1 At the pavement		
	3.2 At Zebra Side		
	3.3 Moving from the home gate to Outside road sidewalk.		
	3.4 Moving techniques used by the persons outside environment of home and ENADB		
	3.5 Obstacles that hinder communication and traveling of Deaf-blind persons outside ENADB.		
	3.6 Communicating and traveling Techniques used by Deaf-blind persons.		

Time range.....

Observation

sheet number.....

APPENDIX D

Pictorial representation guide

These guide, Pictorial representation guide are designed to be administered by the researcher after Interview, focus group discussion & observation means would be finished at the ENADB environment. The objective of the Pictorial representation as data gathering instrument is to investigate the Experience that, they have been described. So, as it's description to show using pictures what they are describing regarding their feeling on communication, orientation and mobility skill by Deaf-blind persons in the Metropolitan city surrounding environment of ENADB.

1. Which pictorial representation would be concise to the description of Deaf-blindpersons that is helpful to share understanding on mobility and orientation skill accessibility of Deaf-blindpersons at indoor and outdoor of the ENADB environment?
2. Which pictorial representation would be concise to the description of Deaf-blindpersons that is helpful to share mobility obstacles of Deaf-blind persons within the ENAD environment?
3. Which pictorial representation would be concise to the description of Deaf-blindpersons that is helpful to share communication, mobility and orientation obstacles of Deaf-blind persons outside of the ENADB environment?

APPENDIX E

Pictorial representation

In this section some of the photographs with its description have been preceded after the interview dada have collected from the interviewees. Then after, I have tried looking the raw data and I have searching if there is anything that can be match with the response of the Deaf-blind person. Therefore, I have got some photos by the eye of camera that has

described as it is. So this can help the researcher to triangulate the data from different sources of collecting instruments.

1. Pictorial representation of the ENADB and the Metropolitan city of Addis Ababa surrounding environments

The ENADB has found at Addis Ababa, Arada sub city 6 kilo area in front of seba dereja stair along the Side of the narrow mini way road 100 meter inter. The physical environment of the ENADB is not in good shape. The ENADB campus has a small size of meter square. The ENADB entrains mini and main ways road is much occupied with business. This causes problems for the deaf-blind person's approaches to how to communicate with other persons and mobility. The ENADB building surface area is not enough for free enjoyment for Deaf-blind persons. The seba dereja up and down stairs are cracked and broken. Mini roads to the ENADB from the main roads are fully occupied with small business and created confusion and fear by congenital Deaf-blind. For instance, from Markos church to ENADB along with mini asphalted way along to ENADB, from 5 kilo main road to ENADB along with wereda 6 to ENADB fully occupied with small business. There have not landmarks and clues that are used for easily to identify and accessible.



Figure 1. Example of the cracked & broken up and down stairs of seba dereja from the Piasa main road along to the ENADB.

Description. These stairs are found at down side from Nazret Girls School. This is found almost 100 meter near the gate of the ENADB, each-steps of the stair has broken or cracked. Thus, Step Stairs are difficult for Cane users.

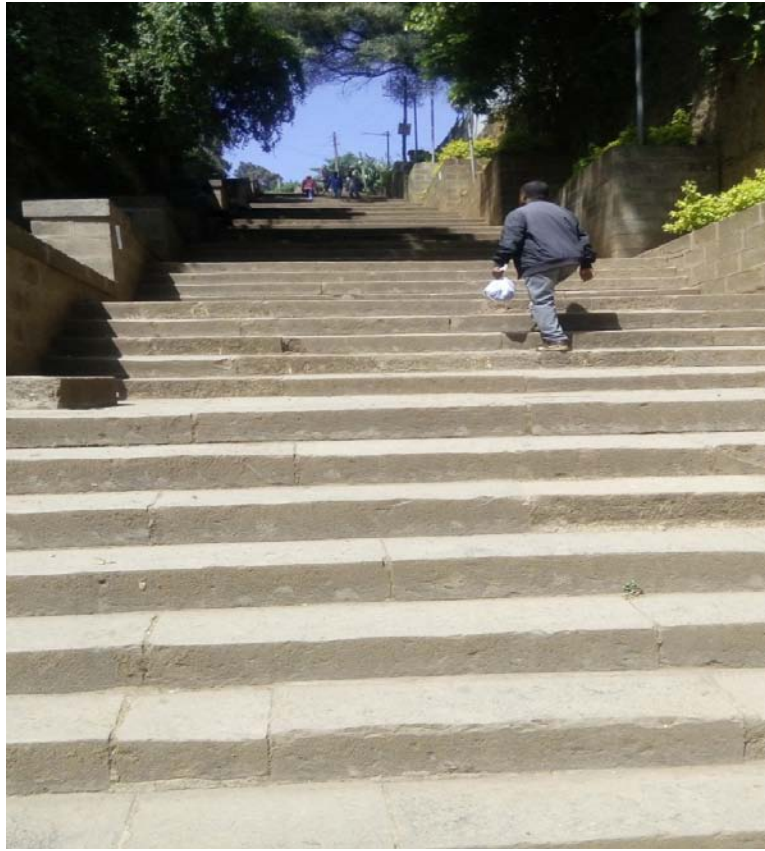


Figure 2. Example of up & down stair without ramp and handrail on the back side of Nazret Girls school from Ras mekonin bridge area to ENADB.

Description. This stair found at the back side of Nazret Girls school from Ras Mekonin bridge area to ENADB, As indicated on the photo the up and down Stair at side way there is no ramp and **handrail** at left, right and back Sides. The lack of ramp and handrail on such Stairs may decrease the confidence of independent interaction with other persons and movement of Deaf-blind persons.



Figure 3. Example of flat corridor with narrow space path ground within the compound from front space area path along the back space of the ENADB

Description. As everyone understand from the Figure 3, the flat narrow long corridor has Seen with no enough space. The entrance ways to the corridor has not clearly understood by Deaf-blind children. No Clues and landmark is given to the entrance way to the corridor to Deaf-blind persons.



Figure4.Example of inaccessible pedestrians' pavement with unnecessary electric poles around the the way along theentrance of ENADB.

Description. The pavement leads to theentrance of ENADB office is not clearly understood by the ENADB deaf-blind persons. There is unnecessary electric poles along the way from Markos church , local alcohol business center at the right side of the ENADB office and around eight meter public toiletat the right side of ENADB office.



Figure 5. Example of electric pole around the entrance of ENADB

Description. This photo has shown the potholes around the entrance of ENADB. There is nothing tactile landmark and the alcohol users persons around the entrance most of the time confuses the Deaf-blind persons to get the target entrance to ENADB. Deaf-blind-persons are at risk or in fear.



Figure 6 . Example of Inaccessible mini way from Markos church to ENADB with full of street obstacles.

Description. This photo has indicated that the mini way from 6 kilo square along to ENADB through Ethiopian national association for the blind. The mini way is made for the purpose of the short path way but the left and right side of the mini way is full of obstacles, street business and that confuses most of the Deaf-blind persons when crossing that unnecessary business area of the surrounding environment of the Metropolitan city A.A. The business areas are open for the whole working day time and Deaf-blind persons cannot understand what happens around their surrounding. Such obstacles are barriers for mobility and communication of Deaf-blind persons.



Figure 7.Example of Inaccessible mini way from 5 kilo main way to wereda 6 along to ENADB.

Description. The photo has shown the inaccessibility areas around the ENADB environment. The mini way left and right side is fully occupied with street business and Deaf-blind persons daily crashed with the speedy movement of business man's. Their cane can be broken. There is no guarantee for their independent safe and mobility.



Figure 8. Example of inaccessible electric pole at pedestrians' pavement around the ENADB.

Description: This pictorial representation has showed the inaccessible electric pole at pavement which block the mobility of Deaf-blind person.



Figure 9. Example of inaccessible parked cars and small scale business centers mini way along to ENADB

Description: This pictorial representation has showed the inaccessible parked cars and street businesses which blocks the mobility of Deaf-blind persons.



Fig.10 Examples of ENADB poster at the gate and the attached local alcohol business center